ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

OF THE

PROVINCE of ALBERTA

FOR THE YEAR

1923

PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON:
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DEPARTMENT OF AGRICULTURE, EDMONTON.

TO HIS HONOUR

ROBERT GEORGE BRETT,

Lieutenant Governor of the Province of Alberta.

SIR,—

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1923.

I have the honour to be, Sir,

Your obedient servant,

GEORGE HOADLEY,

Minister of Agriculture.

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P. R. Talbot, V.S., Provincial Veterinarian, and Superintendent of Fairs and Institutes.

W. J. Stephen, Field Crops Commissioner.

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Report of the Deputy Minister

HON. GEORGE HOADLEY,
Minister of Agriculture.

SIR,—

I have the honour to submit herewith the Eighteenth Annual Report of the Department of Agriculture.

The year 1923 was marked by one of the best crops in our history. Although the spring opened somewhat dry and continued so throughout most of the month of May, the season later was particularly favourable in that the moisture supply was plentiful during the whole of the remainder of the growing season, with the result that crops in every part of the province gave a heavy yield of both straw and grain. The rains came early enough in the season to encourage farmers generally to seed a large acreage of oats and barley.

On account of the light crop in 1922 farmers generally were anxious to ensure against the possibility of a feed shortage this year and consequently seeded heavily to oats, green feed and silage crops, such as sunflowers and corn. Due to the favourable growing season sunflowers and corn produced particularly heavy yields. These two crops give great promise of supplying an abundance of winter feed. In the southern part of the province particularly, the growing of corn has made very great headway. From an acreage of 14,000 for the entire province in 1918 it has now increased to 53,981 acres. It is being cured as dry corn stover and also stored as ensilage. It would appear that for a considerable proportion of Southern Alberta corn can not only be grown successfully as a feed for livestock but that it can be ripened for grain practically every year. The representative of the Department at Medicine Hat is giving special attention to the encouragement of corn growing in the district in which he is located.

A NOTABLE CROP

The crop of 1923 was not only notable for its quantity but was also remarkable as well for its superior quality. The best evidence of this is to be found in the fact that Alberta won a large number of prizes at the International Hay and Grain Show held at Chicago in December. This competition includes exhibits from the whole of North America and it is a matter of very great gratification that the young Province of Alberta was successful in winning the grand championships for wheat and oats, also first prize for peas and red clover, in addition to many other important prizes, including twenty-one of the thirty-five prizes in oats. It is also worthy of note that the third prize in wheat went to Lake Saskatoon which is a comparatively new district. The department gave encouragement to the exhibiting of this grain in Chicago by collecting the

exhibits, by paying the express charges and by having a man at the show to set the exhibits in place and generally look after the interests of the exhibitors. The advertising which the province received as a result of the winnings at this show has been invaluable both from the standpoint of the possibilities of the country for grain production and as a means of finding a market for our present large supply of registered seed grain.

Seed grain production has come to be an important branch of farming in the province. One year ago a Registered Seed Growers' Association was organized and the first annual convention held in February. At the same time as the association was formed the Department established a seed grain cleaning and marketing service at Edmonton. Registered seed only is handled. It is cleaned, graded, sacked and sold for the growers by this departmental service. Last year about 17,000 bushels were handled. Already a large number of applications have been received from growers for the cleaning and sale of their seed for the coming year. It would appear that the plant will be required to at least treble its initial output. Very satisfactory reports have been received from those who secured this seed. It would appear that there is an opportunity of establishing an extensive market for Alberta seed grain both in Canada and the United States.

Harvesting operations were exceedingly difficult. Due to the heavy crop and also to the fact that a snowstorm came in early September the grain lodged over a considerable portion of the province. This storm caused some deterioration in the grade of wheat. The balance of the harvesting weather was particularly favourable so that the harvesting and threshing was completely finished before the arrival of winter.

Labour was somewhat scarce at times throughout the heavy part of the season, although no hardship was experienced. The high prices obtaining for labour along with the other heavy charges for handling the crop have greatly reduced the amount of money remaining in the farmers' hands as a result of the heavy yield. On the whole, however, agricultural conditions generally, throughout the province, have improved over a year ago.

Credit must be given to the railway companies for the splendid manner in which they have moved the large crop. Very little hardship has existed, up to the present time, on account of car shortage.

CATTLE

The cattle situation is in a more healthy condition than it has been for some years past. The crop season having been a favourable one, there is an abundance of feed, much of which can not find a market, and as a consequence must be fed on the farm. Present indications are that much more beef will be fed than usual. Heavy purchases have already been made by farmers of the province. A stocker and feeder show and sale was held in Calgary at the stockyards, when feeders sold as high as five and a half cents,

HARVESTING ALBERTA'S 1923 CROP

two lots of beef steers bringing over seven cents. On account of the raising of the British embargo there is no doubt that a number of western cattle will find their way to the British market in the spring, provided they are in good condition. Remunerative prices were secured for all good beef cattle during the past spring. Farmers and livestock men generally are of the opinion that similarly good prices should prevail during the coming spring.

In certain sections of the province there has been a demand for breeding cows and heifers, showing that the people are beginning to again stock up. Up to the present time this class of cattle have been selling at rather low prices, principally owing to the fact that some people have been forced to sell to secure cash for carrying on their operations.

There is some increase in the number of cattle held this year over last year, principally due to the increased amount of feed available. One noticeable feature of the whole cattle situation this year is that very few of the present crop of calves are finding their way to market.

HORSES

The horse market is very dull at the present time, notwithstanding the fact that 460 carloads of horses were moved out of Alberta this year, of which 85% went to Eastern Canada. Prices have not been large but it is encouraging to find that so many horses have been moved.

On account of the low market and oversupply very few mares are being bred. One bad feature of the horse situation in the province is the number of small nondescript animals which are to be found on the range. These practically useless horses are eating much feed that could be used to better advantage, either by other horses or other classes of stock.

SHEEP

The latter few weeks of the year saw a good demand for breeding ewes. Lambs and mutton are selling at high prices, consequently people are encouraged to go into the business. In spite of the fact that feeder lambs are high in price a large number of sheep and lambs were fed for the spring market. The difficulty of securing proper fencing has retarded the development of the sheep business.

SWINE

The swine population has very greatly increased over that of last year. The pig crop has been an exceptionally large one. A very greatly increased number of sows were bred and the mortality in the spring litters was very small. A shortage of grain from last season and delayed threshing during the present fall will of necessity bring finished hogs to market later than usual. As soon as the money is available, there is no doubt that there will be a demand from farmers for brood sows. Hog prices have kept up exceptionally well during the whole season.

There has been some considerable improvement in the type of hog which has been arriving at the stockyards. The number of selects has not very greatly increased, but there has been a distinct improvement in the thick, smooth type of hog, which means that in another generation or two we shall gradually get our hogs to a point where many more of them will class as selects and for which the select premium will be paid.

FEED

During recent years farmers are depending much less upon the prairie grass than was the case previously. Dry seasons have reduced the amount of prairie grass available, so that some improved method was essential if livestock is to form an important part of our farming operations. Cultivated grasses are being used more extensively, also fall rye, oats and sweet clover are being grown for pasture purposes. Over a considerable portion of the province sweet clover seems to give promise of a very important pasture crop. The Department is doing some work with sweet clover on the various provincial farms and has arrived at a point where we are prepared to recommend this crop in practically every part of the province.

The matter of storing winter feed has received a great deal of attention since the extreme feed shortage which existed in the winter of 1919-20. A large number of silos have been constructed, some of them upright wooden and cement structures, but the greater proportion are the trench type. The cheapness of construction has appealed to most farmers. It is an easy and inexpensive method of storing feed for winter use. The department has used the following crops successfully: Sunflowers, corn, green oats, alfalfa, and sweet clover. Sweet clover seems to be giving particularly good results although our experiments have not been conducted for a sufficient length of time to make a pronouncement yet. The silage up to the present has been of a particularly good quality.

POULTRY

There has been a substantial increase in the amount of poultry raised in the country. This is true of both chickens and turkeys. Good prices have been secured during the past few years and farmers generally have realized that this is one of the most profitable branches of their business. The Old Country trade is being developed for both eggs and poultry, some of each having gone from Alberta to the British market during the past season at good prices. The poultry industry is in a very healthy state and people generally are anxious to develop this line as fast as possible.

The poultry and egg marketing service has handled a large amount of the product of the province during the past year, 110 carloads having actually passed through the marketing service. The service for the marketing of eggs has been extended to the city of Lethbridge for the purpose of handling the product in the southern part of the province.

The live poultry shipment has been developing to some extent during the present season. Regular shipments of live poultry have been made to the Vancouver and Victoria markets. Some have also gone to Eastern Canada. The shipments to eastern points have not been so successful, however, on account of the long train haul. A particularly large volume of turkeys has been handled. Many of these turkeys have reached the service in a thin condition and as a consequence the prices have not been as large as might have been realized had the turkeys been placed in good marketing condition before being disposed of.

BEE CULTURE

During the past few years a number of people have established small apiaries. Invariably this enterprise has been a success. It would appear that our climate is well suited to the handling of bees and that there are plenty of flowers from which honey can be secured. A very great deal of interest is being taken in this work in the irrigated districts. It seems quite probable that honey will produce a considerable revenue in the near future.

CO-OPERATIVE MARKETING

The question of co-operative marketing has received a great deal of attention in the province during the past year. The wheat pool has been established for the marketing of the 1923 crop on a co-operative basis. From present indications it would appear that a substantial amount of the crop will be marketed through this organization. A spirit of co-operation seems to have taken hold of the people generally. Such a spirit will undoubtedly go a long way toward ensuring the success of the movement. If present plans materialize it should not be long until most of our farm commodities will be sold on a strictly co-operative basis.

The selling agencies now being operated by the Department of Agriculture are poultry and egg marketing service, seed grain marketing service, and the butter marketing service. These have functioned in the absence of any co-operative enterprise. As soon as co-operative organizations are prepared to undertake the selling of these commodities the Department is prepared to turn over the work to such an organization and to render any assistance possible in the promotion of co-operative undertakings.

Reports from the various heads of the Branches are attached hereto, where more detailed information of the various activities of the Department will be found.

Respectfully submitted,

H. A. CRAIG,
Deputy Minister.

Report of the Livestock Commissioner and District Agriculturists

H. A. CRAIG,

Deputy Minister of Agriculture.

SIR,—

I have the honour to present herewith the report of the Livestock Branch for the year 1923.

While there was not much improvement in the prices of horses and beef cattle in 1923 over a year ago, the general livestock situation over the whole province is in a much more satisfactory condition.

Owing to the extremely heavy crop harvested and the low price for grain a great many more cattle were put in the feed lots by farmers than at any time in the history of the province. This is an industry which should receive every encouragement, as the profitable end of the cattle business for the farmer is in the feeding and finishing of cattle that will bring the highest price on the market.

The price of pure-bred beef cattle is still disappointingly low, but for animals of good type and choice breeding, some satisfactory sales have been made. A beneficial effect of the low price of pure-bred cattle is the large number of poor and medium type bulls that are castrated instead of being sold for breeding purposes.

This was noticed at the bull sales, where a better average lot was offered than ever before.

Below is a summary of the Calgary and Edmonton Bull Sales:

1923 SPRING BULL SALE AT EDMONTON:

Breed	No. entered	No. sold	Amount sold for	Average
Shorthorns	126	62	$7,170.00	$115.64
Aberdeen-Angus	15	5	450.00	90.00
Herefords	9	6	635.00	105.83
Holstein	8	4	425.00	106.25
Ayrshire	3	0		
Totals	161	77	$8,680.00	$112.72 (General Average)

1923 BULL SALE AT CALGARY:

Breed	No. Sold	Amount Sold for	Average
Shorthorns	235	$24,830.00	$105.64
Herefords	84	11,065.00	131.73
Aberdeen-Angus	23	3,100.00	134.78
Other Breeds	10	1,085.00	108.50
Total	352	$40,076.00	$113.85

412 bulls entered.

HIGHEST PRICES

Red Polled Bull No. 1, Red Bill 4912, $140.00, sold by H. L. Sweet, Morningside, to Dominion Livestock Branch.

Shorthorn Bull No. 250, Stamford Count, 159684, $330.00, sold by Wm. Hudson, Kathryn, to Percy E. Downey, Gull Lake, Saskatchewan.

Aberdeen-Angus No. 284, Tankman, 28067, $310.00, sold by Frank Y. Tindal, De Winton, to O. J. Granlien, Stavely.

Galloway No. 307, Pride Lad of Maples, 2555, $75.00, sold by W. E. Tees, Lacombe, to L. B. Rose, Kimball, Alberta.

Hereford No. 401, Logan 15th, 33601, $340.00, sold by J. M. Campbell, Stavely, to H. Robertson, Sampsonton, Alberta.

Holstein No. 408, Pietertje Prince Korndyke, 53459, $190.00, sold by Thomas Brotherton, Calgary, to Dominion Livestock Branch.

Following is a summary of the Summer and Fall Sale of Cattle:

SUMMER CATTLE SALE, MAY 31, 1923

91 entered.		Average
6 Shorthorn females	$ 470.00	$ 78.33
14 Shorthorn males	1,005.00	71.78
7 Angus females	200.00	28.57
10 Angus males	535.00	53.50
2 Hereford females	95.00	47.50
19 Hereford males	2,075.00	109.21
2 Holstein males	115.00	57.50
Total—60	$4,495.00	$74.91

HIGH PRICES

Shorthorn No. 91, King Friar, 147567, sold by Hamilton Bros., Innisfail, to J. Fisher Williams and Co., Acme, for $160.00.

Angus No. 51, Casa Loma Birmabel 8th, 29021, sold by F. R. Cathro, Calgary, to Chas. A. Miller, Piapot, Sask., for $80.00.

Hereford No. 72, David Harum, 41156, sold by William A. Alston, Knee Hill Valley, to Ontalta Farms, Ltd., Calgary, for $220.00.

FALL STOCK SALE, NOV. 6TH TO 9TH, 1923 (CATTLE)

		Average
20 Shorthorn females	$1,475.00	$ 73.75
1 Shorthorn male	75.00	75.00
27 Aberdeen-Angus females	1,160.00	43.00
2 Aberdeen-Angus males	65.00	32.50
12 Hereford females	805.00	67.00
4 Holstein females	565.00	141.25
Total—66	$4,145.00	$62.80

HIGH PRICES

Shorthorn No. 2, Tranby Gem 2nd, 186841, sold by Chas. G. Beeching, DeWinton, to A. G. Stewart, Aldersyde, for $135.00.

Angus No. 67, Pride of Retlaw 3rd, 30435, sold by J. H. Dutfield, Retlaw, to Gregory Bros., Irricana, for $80.00.

Hereford No. 46, Loretta, 48644, sold by S. M. Mace, High River, to W. L. Crawford, Frost, Nanton, for $100.00.

Holstein No. 58, May Kietertje Abberkerk, 78480, sold by C. P. R. Demonstration Farm, Strathmore, to T. M. Little, Delacour, for $205.00.

DAIRY CATTLE

There still keeps up a strong demand for dairy cattle. The dairy industry is increasing in the province and is on a sound footing. A large number of farmers are desirous of bringing in high producing cows from Ontario and other points, and while this is commendable, and should be encouraged to a certain extent, the fact remains that a large number of our farmers have not the experience nor the facilities for taking care of a highly developed animal. By purchasing a medium type cow for a moderate price and putting a few extra dollars in a good bull, a good herd can soon be built up at a much lower cost than by purchasing a whole herd of high priced animals.

There is also the question of care and feed. No animal responds more quickly to good treatment, or the reverse, than the dairy cow, and we would urge our farmers to improve in their methods of caring and feeding of their livestock on the farm, especially the dairy cow.

HORSES

While the price of horses has not improved a great deal during the year, there has been a much stronger demand than in the past few years. Good big draft horses, that are broken, find a ready sale at remunerative prices, and there is no doubt that prices for good horses are slowly but nevertheless surely coming back and farmers and horse breeders will be well advised to keep on breeding their best mares.

A few good stallions were clubbed this year and the prospects are for an additional number in 1924.

During the year there were approximately 460 cars of horses shipped out of the province, about half of these going to Saskatchewan and the rest to British Columbia, Toronto, Montreal and the eastern provinces.

Our real problem, however, is to rid our ranges of the thousands of worthless horses which graze there, and save the grass for a more profitable class of stock. If a market for these worthless beasts could be found a real benefit would be derived.

SHEEP

The sheep industry is in a flourishing condition. The price of wool has not increased materially, but, considering the price of other farm commodities, is fairly satisfactory. But the profit in sheep is in the exceptionally high price of mutton, especially of well finished lambs. For the past few years the prices of lambs on the range have been only moderate and men who were engaged in the business of feeding and finishing lambs reaped large profits, but this year lambs off the range sold as high as 10 cents per lb. off car weights Calgary, so that the sheep raisers have the benefit of the high prices and consequently are in perhaps a more prosperous condition than any of the other livestock men.

The sheep population of the province is approximately 335,000, and there is plenty of room for thousands more. There is a place on nearly every farm in the province for a small flock of sheep and there is no class of stock which will give greater returns.

Following is an account of the sheep sale held at Calgary:

SHEEP SALE AT CALGARY, NOV. 6TH TO 9TH, 1923

		Average
18 Shropshire ewes	$ 414.00	$23.00
22 Shropshire rams	830.00	37.72
24 Suffolk ewes	362.00	15.00
2 Suffolk rams	76.00	38.00
47 Oxford rams	1,857.00	39.51
1 Cotswold ram	21.00	21.00
Total—114	$3,560.00	$21.22

HIGH PRICES

Shropshire No. 148, Princeton 45, 36193, sold by E. P. Ranch, Pekisko, to A. J. B. Dewdney, Calgary, for $66.00.

Suffolk No. 158, Clarindale 190, 5103, sold by Clarindale Stock Farm, Vauxhall, to A. R. McNaughton, Didsbury, for $39.00.

Oxford No. 177, Minto 47, 19009, sold by Earl of Minto, Nanton, to A. J. McKenzie, Pincher Creek, for $75.00.

HOGS

The production of hogs has increased wonderfully during the year, so that instead of bringing in pork products, as we did a few years ago, we are now shipping hogs out of the province, thus bringing in ready cash for the farmers. The price during the first ten months of the year was exceptionally good, due to the comparatively small number of hogs going on the market during this time, which was caused by the short grain crop of 1922, which resulted in the pigs being rather scantily fed until the new crop was threshed, so that instead of large numbers coming on the market in September and October they did not reach the market until November and December, and a great many are being carried over into the new year.

As soon as there was a surplus, however, the price naturally dropped to the level of prices paid elsewhere.

If hog raising is to be a profitable business in this province the farmer must learn to market his hogs and not dump them on the market in the course of a couple of months. If the market was fed with a steady supply so that it would not become glutted a more uniform price throughout the year would be obtained.

GRADING

The grading of hogs which has now been in effect for the past two seasons is no doubt having a beneficial effect on the quality of hogs grown. While the per cent. of selects is still low there is a great improvement in the quality of the thick smooth hog. More bacon type boars are being used and while there is considerable improvement in the first cross it cannot be expected that a very large per cent. of this first cross would grade select, but if good sires are used for the next few years, and care taken in supplying the proper kind of feed for these hogs, Alberta will soon be noted for supplying a large per cent. of Wiltshire sides.

Following is a summary of the swine sale held at Calgary:

SWINE SALE, NOV. 6TH TO 9TH, 1923

		Average
18 Berkshire sows	$ 462 50	$25 70
12 Berkshire boars	345 00	28 75
1 Tamworth boar	34 00	34 00
4 Yorkshire boars	90 00	22 50
6 Bacon Hogs	90 00	15 00
Total—41	$1,021 50	$24 91

HIGH PRICE

Berkshire No. 297, Clarindale 311, 65422, sold by Clarindale Stock Farm, Vaukhall, to O. Moorehouse, Carseland, for $57.00.

DISTRICT AGRICULTURISTS

The work of the District Agriculturists has been greatly appreciated by the farmers.

Mr. Giffen was appointed assistant to Mr. Freng early in the season in the Lethbridge district, as it was felt that the farmers in the Lethbridge Northern Irrigation district would need considerable assistance in getting their ditches surveyed and farms laid out properly. Mr. Freng and Mr. Giffen have spent a great deal of time at this work.

Mr. James Murray, of Medicine Hat, has been centralizing his efforts in inducing the farmers to grow corn, as he feels this is the safest crop that can be grown in this particular area. New varieties were introduced and a number of them successfully grown. The south-eastern portion of the province will no doubt in the near future be ranked as one of the best corn districts in the north-west.

Mr. H. W. Scott has been doing excellent work in the Sedgewick district and his efforts among the boys and girls in organizing pig clubs and school fairs deserves special mention.

The services of two new men were secured during the year. Mr. F. H. Newcombe, who has been engaged for the past five years in similar work in the Selkirk district of Manitoba, has been stationed at Vegreville and will spend a portion of his time among the foreigners along the St. Paul line. Mr. Newcombe comes to us highly recommended and we feel sure he will do useful work.

Mr. A. R. Judson, who has been farming for some years near Taber, has been located at Grande Prairie, and his services will be available for both the Grande Prairie and Peace River districts. In Mr. Judson we feel we have a man of the right type and with sufficient experience to give valuable assistance to the farmers of these districts.

PIG CLUBS

The Pig Club work was put under the direction of Mr. L. T. Chapman, who became associated with the Department in the latter part of 1922. Notwithstanding the short grain crop of 1922, which prevented numbers of farmers from starting into the hog business, fourteen clubs were organized, and eight carloads of finished hogs were exhibited at Calgary and Edmonton by the boys and girls.

The pig club work is doing a great deal to interest the boys and girls in taking an interest in livestock, and keeping them contented on the farm. It is also evident that wherever a pig club has been in existence for a couple of years a great improvement is found in the pigs in the locality where the pig club was formed.

Requests have been received for assistance to organize new clubs for 1924.

Respectfully submitted,

S. G. CARLYLE,
Livestock Commissioner.

REPORT ON PIG CLUBS

S. G. CARLYLE,
Livestock Commissioner.

SIR, -

I have the honour to submit herewith my First Annual Report of Girls' and Boys' Club work in Alberta, for the year ending December 31, 1923.

Fourteen swine clubs were organized in 1923, the majority of which were clubs of one year's standing or more. New clubs were organized at the following points:

	Members		Members
Round Hill	20	Battle Bend	11
Red Deer	24	Vauxhall	14

Clubs of one year's standing or more, which were reorganized, are located at the following points:

	Members		Members
Sturgeon	30	Sedgewick	16
Killam	22	Lougheed	20
Hardisty	22	Czar	21
Alliance	24	Olds	26
Bassano	14	Brooks	22

The total membership for the year was 286 girls and boys.

The number of entries exhibited by each Swine Club at the School Fair in their district is as follows:

	Entries		Entries
Sturgeon	16	Round Hill	10
Red Deer	5	Olds	9
Sedgewick	3	Killam	13
Lougheed	12	Hardisty	5
Czar	12	Alliance	21
Battle Bend	8	Bassano	7
Brooks (no entries).		Vauxhall	15

Each entry consists of one pair of pigs, making a total of 272 pigs exhibited by the 136 members.

COMPETITIONS

A swine-judging competition was held at all School Fairs where Swine Club members exhibited their hogs. The three highest scoring members were chosen to represent their club at the inter-club competition held at the market points. Two inter-club car-lot and judging competitions were held in 1923, at Calgary and Edmonton.

Calgary

The competition for Swine Clubs from districts south of and including Red Deer, was held at the Calgary Fall Show and Sale, November 6 to 9. Owing to the unusually late harvest and the resulting feed shortage, only two swine clubs succeeded in having their hogs finished for this show. Threshing was in full swing at the time the show was held, and only eight Swine club members attended tthe show. The cash prizes offered by the Dominion Livestock Branch were awarded as follows:

Car-lot Competition:

1st, Olds Berkshires	$100 00
2nd, Red Deer Yorkshires	90 00
	$190 00

Judging Competition:

1st, Olds Team of three Members	$ 25 00
2nd, Red Deer Team of two Members	24 00
	$49 00

Specials :—The three silver medals offered by the Alberta Swine Breeders' Association, for the highest scoring team in the inter-club swine-judging competition, went to the Olds team. The gold watch offered for the highest scoring individual was won by Wilbur La Marsh, a member of the Olds team.

Oral Competition :— A special competition for the best oral statement of how the members raised their hogs was held. The prizes were awarded by The Alberta Stockyards Co. Limited:

1st, Member of the Olds Swine Club	$ 15.00
2nd, Member of the Red Deer Swine Club	10.00
	$ 25.00

Single Class :—In the single class of bacon hogs open to girls and boys only two club members exhibited:

2nd Prize, Owen Richards, Red Deer Club	$ 50.00
3rd Prize, Clark Houghton, Red Deer Club	40.00
	$ 90.00

Total prizes won by Swine Club members at the Calgary show:

Cash	$354.00
Specials—Three Silver Medals and one gold watch.	

Edmonton

The First Annual Girls' and Boys' Swine Club Show at Edmonton was held at the Edmonton Stockyards, December 5 and 6. Nine clubs from districts north of Red Deer were represented at the show. Six carloads of hogs were exhibited, making a total of 365 head.

The prizes offered by the Dominion Livestock Branch in the inter-club car-lot and judging competitions were awarded as follows:

Car-lot Competition:

1st,	Sturgeon (Tamworths)	$100.00
2nd,	Hardisty and Lougheed (Berkshires)	90.00
3rd,	Sedgewick and Killam (Berkshires)	80.00
4th,	Round Hill and Czar (Berkshires)	75.00
5th,	Alliance (Berkshires)	70.00
6th,	Czar (Berkshires)	65.00
	Total	$480.00

Judging Competition:

1st,	Sedgewick (Team of three members)	$25.00
2nd,	Lougheed (Team of three members)	24.00
3rd,	Czar (Team of three members)	23.00
4th,	Sturgeon (Team of three members)	22.00
5th,	Hardisty (Team of three members)	21.00
6th,	Alliance (Team of three members)	20.00
7th,	Killam (Team of three members)	19.00
8th,	Battle Bend (Team of three members)	18.00
		$172.00

Specials:— The three silver medals offered by the Alberta Provincial Swine Breeders' Association Ltd., for the highest scoring team in the inter-club judging competition, were won by the Sedgewick team. The high scoring individual was Kermit Schultz, of the Sturgeon Club.

Single Class :—In the single class for bacon hogs, the prize money was donated by the Edmonton Stockyards Co., Commission Firms and Packing Houses. Seventy entries were brought out in this class, and thirty-five prizes were awarded ranging from $25.00 for first, to $2.00 for the thirty-first, making a total of $210.00.

Total prizes won by club members at the Edmonton show:

Cash $892.00
Specials—Three Silver Medals.

New Features Added in 1923

(1) Swine Club Rules and Regulations with a personal letter and application forms attached were forwarded to each member.

(2) Swine Club Record Book was prepared and placed in the hands of each member for keeping record of cost of raising his or her pigs. The best gain from records we have received to date is 241 lbs. in 110 days, immediately before marketing, for two hogs. An average of slightly less than 2.2 pounds per day.

(3) Circular letters were prepared and forwarded periodically from the Department to each member, through their club supervisor:

Circular No. 1, "Care and Management of Sows from Breeding Time up to Weaning of Litter."

Circular No. 2, "Care and Management of Sow and Litter at Weaning Time and up to the Finishing Period."

Circular No. 3, "Finishing Feeders for 'Selects'."

Circular No. 4, "Care of the Young Sow and Preparation for Breeding."

These circulars were forwarded to the members at the time when the subject was a live topic.

(4) The names and addresses of all Swine Club members were forwarded to the Industrial and Development Council of Meat Packers, Toronto, to be placed on their mailing list for the monthly letter on "Canadian Livestock Products."

(5) The Alberta Swine Breeders' Association and The Alberta Provincial Swine Breeders' Association, Ltd., each donated three silver medals, which were awarded at the Calgary and Edmonton Swine Club Shows, respectively, to the winning team of three members in the inter-club judging competition.

(6) The names and addresses of all members were forwarded to both the Edmonton and Calgary Exhibition Associations, to be placed on their mailing list, for the prize lists of their various shows and exhibitions.

(7) Official Report Forms were introduced this year by the Dominion Livestock Branch, viz:

1. Girls' and Boys' Swine Club Organization Report.
2. Girls' and Boys' Swine Club Fair Report.

(8) A new clause was inserted in the Rules and Regulations requiring that a Swine Judging Competition be held at each local fair where members exhibited hogs. The three highest members were chosen as a team for the inter-club competition.

Summary

The development of Girls' and Boys' Clubs in 1923 was intensive rather than extensive and activities were confined to Swine Clubs. The light crop of 1922 and the resulting feed shortage, followed by a very dry spring in 1923, was a great handicap to the work. However, the rain about the middle of June made crop prospects for 1923 somewhat brighter and a corresponding renewal of enthusiasm in club work resulted. The season was then too far advanced to organize a large number of new clubs. However, four new clubs were organized, as stated in a preceding paragraph, and ten of the old clubs were reorganized. Clubs which were organized in 1922, at Grande Prairie, Vermilion, Innisfail, Sundre and Carstairs, were not reorganized in 1923, mainly owing to the fact that the staff of the Department was insufficient to do the necessary work. The feed shortage was also a limiting factor. It will be seen, however, from the following table that progress was made in 1923 despite unfavourable conditions; particularly with respect to the increased number of hogs marketed by members, and the increased number of members attending the Fall Club Show, and competing in the judging competition, as compared with 1922:

	1922	1923
No. of Clubs organized	15	14
Number of Members	..	286
Number of Clubs exhibiting at School Fairs	13	12
Number of Members exhibiting at School Fairs	..	121

Inter-Club Car-lot Competition:

(C—Calgary, E—Edmonton)	1922	1923	
Number of Clubs exhibiting	(C) 6	(C) 2	
		(E) 9	11
Number of Car-lots exhibited	(C) 3	(C) 2	
		(E) 6	8
Number of Hogs exhibited	(C) 156	(C) 91	
		(E) 365	456
Prizes Awarded on Car-lots	(C) $270	(C) $190	
		(E) $480	$670

Single Classes of Hogs:

	1922	1923	
Prizes awarded at fall shows		(C) $ 90	
		(E) 240	$330

Inter-Club Judging Competitions:

Number of competitors	(C) 17	(C) 5 (E) 24	29
Amount of prizes awarded	(C) $289	(C) $ 49 (E) $172	$221
NOTE:—The same prizes paid to individuals in 1922 were paid to teams of three members in 1923.			
Number of Members attending Fall Shows	(C) 20	(C) 8 (E) 72	80
Prizes Won in Oral Competitions	...	(C) $ 25	$ 25
Total Prize Money Awarded to Swine Club Members at Fall Shows	...	(C) $352 (E) $892	$1244
Railway Fare Allowance Paid by the Provincial Department of Agriculture to Club Members Attending the Fall Shows.	(C) $100	(C) $ 40 (E) $235	$275

Purebred Sires

The Dominion Livestock Branch have loaned through their Sire Loan policy pure-bred bacon type boars to the following clubs for their use during 1923-24 breeding season:

Vermilion, one Yorkshire.

Red Deer, three Yorkshires.

Round Hill, three Berkshires; and one Berkshire to each of the following clubs: Killam, Sedgewick, Hardisty, Czar and Alliance.

Respectfully submitted.

L. T. CHAPMAN.

REPORT OF M. L. FRENG, DISTRICT AGRICULTURIST, LETHBRIDGE

S. G. CARLYLE,

Livestock Commissioner.

SIR,—

I have the honour to present herewith my report for 1923.

Several meetings were held at this point in connection with adjusting of debts between farmers and creditors, the U. S. Tariff Commission and also Calf Club Work.

Last spring, Mr. Charles H. Gifton was appointed assistant.

Under our conditions I find it necessary to direct our efforts along lines to overcome difficulties arising from recent crop failures. The farmers of our district, generally speaking, are doing remarkably well. They realize that farming methods and farm management will have to be adjusted to meet present conditions. However, there should be no stampeding the farmers into

any change. If diversified farming is the objective, it is time that we considered carefully any changes. It is well then to plan the farming accordingly and go into the business gradually.

There has been marked progress made the last couple of years in developing a more safe and permanent system; interest being shown in dairying, sheep-raising, and hog-raising, as well as a crop rotation.

I have been cautious in recommendations, but I feel that it is time we decided on a more permanent system for the dry districts. In brief: we must arrange a rotation to increase our acre yields. Corn and sweet clover are without a doubt, the best dry land fodder crop for our district and both will economically fit into our system of wheat farming. They will add humus; prevent soil-drifting and eradicate weeds. They will also supply an abundance of feed of the highest feeding quality.

This year's crop was encouraging and will liquidate a portion of the farmer's debts and no doubt, some farmers will be able to adopt a more balanced system. It is a recognized fact that farmers practising the one-crop system, in any country, have come to grief.

We have also to consider a different type of farming in our irrigated districts. There is practically 150,000 acres of land coming under irrigation and very few of the settlers in these districts have had any experience along irrigation lines. An irrigation project, the size of the Lethbridge Northern, usually requires a number of experienced men to assist in surveying farm ditches and in a general way familarize the settlers with the irrigation problems. Such assistance could not be furnished by the project manager. I arranged to have Mr. Giffen give all his attention to the Lethbridge Northern district, and I have spent considerable time as well, along this line.

We have called on 175 farmers in this district and surveyed about 400 miles of high line ditches and located a great many reservoirs for stock purposes.

We also distributed a considerable quantity of Alfalfa seed, throughout the new irrigated districts and a fair start was made in the seeding of this crop on the Lethbridge Northern.

There was also considerable interest taken in sugar beets. About 65 half-acre and one-acre plots of sugar beets were planted throughout the various irrigated districts, to demonstrate the tonnage and sugar contents. I assisted in judging and determining the acre yields of this competition. The yields ranged from 11 to 20 tons per acre and the sugar contents from 15% to 20%, which seemed very satisfactory to the sugar company which encouraged this demonstration. Generally speaking, we have not reached the possibility under irrigation. Perhaps it is due to past conditions, which encouraged specialized lines: either wheat or alfalfa. At any rate, this system has been very discouraging the past two years.

We are directing our efforts along a systematic farm lay-out, suitable for any type of diversified farming, allowing for an economically short rotation and all building grounds sheltered with a liberal windbreak. A system of this kind could be worked out on any irrigated farm and there should be no time lost in making the right start.

In March, a series of meetings was held at Taber, Coaldale, Stirling, Magrath and throughout the Lethbridge Northern. The subjects discussed were handled by Mr. Murray, Mr. Pearson, and myself, along summer-fallowing, corn-growing, dairying and irrigation problems. The meetings were well attended and very good discussions took place.

The Lethbridge district Boys' and Girls' Calf Club was organized this fall. We have twenty-eight members; boy and girl competitors were supplied with excellent calves of good beef conformation. The feeding commenced January 1, 1924. The calves will be shown at the Lethbridge Exhibition in August, and auctioned off as baby beef. Funds for prizes are raised by subscriptions. Business men and the Board of Trade have assisted in this move to a great extent.

We have assisted in judging at several of the school fairs as well as district fairs.

M. L. FRENG,
District Agricultural Representative.

REPORT OF H. W. SCOTT, DISTRICT AGRICULTURIST, SEDGEWICK.

S. G. CARLYLE,
Livestock Commissioner.

SIR,—

I have the honour to present herewith my report for the year 1923.

The duties of a district agriculturist in this section of the province in the opening of 1923 appeared evident. Crop returns for the previous two years were not up to the average and the supply of feed on hand even for the work horses was scant. The prospect for remunerative exclusive grain-growing was not bright and more or less depression was general throughout the district.

In order that at least sufficient feed be provided for liberal feeding of the few milking cows and beef breeding herds, a definite campaign was organized for the production of fodder in the shape of sunflowers, corn, and oats in rows with the seeding down of sweet clover and grasses. The result of the campaign was that

THE HAYING SEASON IN CENTRAL ALBERTA

from 20% to 35% of the farmers for the first time grew some additional crops to supplement the straw stacks for winter feed. Trench silos were dug and silage of various kinds was stored. The rains during the growing season produced good pasture and good crops generally.

There is throughout the district a swing towards mixed farming with a definite crop rotation in mind, wheat forming of necessity the major crop at present. More calves, yearlings and two-year-old steers are being fattened this winter than in any of the five or six years past. Profitable side lines are being sought as experience and finances warrant. Notable progress is being made in working out soil cultivation and crop rotation problems peculiar to local conditions and definite contributions are being made to the sum total of the knowledge available, governing these problems.

The co-operative creamery at Sedgewick, opened on June 23, and made between that and December 31, 128,000 pounds of butter. With the creamery has come a demand for better dairy sires and better dairy cows. I have assisted a number of farmers to secure better dairy stock and a number are now keeping records of the production of their herds.

Some 42 meetings have been addressed during the year. The wheat pool committee received my assistance in planning the campaign and organizing drives for membership. I judged the standing field grain competitions conducted by the agricultural societies at Camrose and Wainwright, and acted as judge at the Agricultural Society Fairs at Camrose, Daysland, Killam, Wainwright and Goose Creek. Some 170 farm hands passed through this office during the spring, harvest, and threshing seasons.

The work among the young people has been continued and enlarged. The seven swine clubs under my supervision have added 38 new members during the year. The total membership now stands at 136. Each member has at least one pure-bred sow, and 679 pigs were fed by these boys and girls. The new members purchased one pure-bred sow and two feeders in the spring, the local bank furnishing the money for the purchase. All the loans have been repaid. Two hundred and seventy-six pigs were shipped to the Swine Club Show at the Edmonton Stockyards on December 6. Thirty-nine of the members attended this show and each club was represented in the judging competition by three of its members.

Some of my time was taken up during the year in coaching and selecting these teams.

The school fair work is developing satisfactorily and twelve centres are under my supervision. There is less tendency now than formerly to make the winning of prize money the chief factor in the school fair work. There is a noted improvement in the quality of the exhibits and while we were unfortunate in having wet weather for five of our school fairs yet the quantity exhibited

was gratifying. The following is a summary of the number of entries in each section at each of the fairs in 1923:

	Vegetables and Flowers	Grain	Livestock	Cooking and Sewing	School Work	Total
Hardisty ..	348	75	32	174	325	954
Amisk	370	77	29	181	288	945
Battle Bend	259	71	29	119	186	664
Alliance..	372	77	72	130	249	900
Killam	515	107	37	298	585	1,542
Stromc	287	40	20	115	321	783
Camrose	345	36	36	202	636	1,264
Bawlf	318	23	25	140	380	886
Lougheed ...	317	33	20	163	334	867
Sedgewick..	468	67	43	264	598	1,440
Czar	335	30	36	175	451	1,027
Provost	453	63	39	219	572	1,346
						12,618

Ten of the School Fair Associations, encouraged by the success of last year, conducted Public Speaking Contests. The programme generally followed was for the contestants to deliver their addresses in the afternoon. This was followed by instruction in public speaking. In the evening there was an entertainment, each school furnishing one number, an address, the presentation of the medals to the winners of the afternoon contest and some educational films. Prof. A. E. Ottewell, of the University of Alberta, rendered valuable assistance in this work and Mr. A. G. Andrews, M.L.A., donated a medal to the winner at each of six points in his constituency.

Fifteen boys and girls in my district exhibited calves in the Baby Beef Class of the Edmonton Spring Show, winning first, second, third, sixth, tenth, thirteenth, fifteenth and seventeenth; first in the Shorthorn, Hereford and Aberdeen-Angus breed specials; second also in the Hereford and Aberdeen-Angus specials, the Lieutenant-Governor Brett's medal, the silver challenge cup offered by Mr. Charles Ellett, the wrist watch offered by Jackson Bros., and Ramsey's special for the youngest boy. Seven pens of beef steers competed at the same show, winning a first, third, fourth, fifth and sixth in the respective classes. This is mentioned as an indication of the tendency that is growing in the district to finish beef stock before marketing, and the indications are that with more fodder crops being grown fewer feeders will be sold off grass.

H. W. SCOTT,

District Agriculturist.

REPORT OF JAMES MURRAY, DISTRICT AGRICULTURIST, MEDICINE HAT.

S. G. Carlyle,
Livestock Commissioner.

Sir,—

I have the honour to present herewith a report of my work for the year 1923.

Season:— Over the greater part of Alberta, 1923 will be remembered as a season of excellent, in many cases phenomenal, crops. Some parts of the south-east were favored with more rain than the average, but other parts had an exceedingly dry season and a very light crop. Rain was too late in coming to do the maximum good in any part of the district. In a few points the crops had gone back so much and the weeds had made such headway when the rain came that a very poor harvest was inevitable.

In those districts where the crops were poorest there was further abandonment of farms. The owners have held on year after year during the dry spell which has lasted since 1917, and when this year brought rain to other parts and little or none to theirs they decided to give up and to try some other district.

The average production of grain per acre was better than for seven years, but it was not by any means high. The abundant growth of straw led many farmers to expect a much heavier yield of grain than was actually threshed, as a week's hot weather in July with a shortage of rain ripened the crop up too quickly. In a few places there was a loss from rust on the late seeded wheat but this was not serious except in small areas. Most of the grain threshed was of excellent quality.

Winter Rye:— Winter rye was at best a partial failure everywhere and on many farms the failure was complete. It was seeded for the most part on dry land and made little or no growth in the fall. There was a very light snowfall to furnish moisture for an early spring growth and practically no rain until the end of May. By that time the weeds had become firmly established, the rye was headed out, and the moisture had little effect in producing a crop. The acreage seeded to this crop was high in both 1921 and 1922. In the former year the crop was good when the wheat was a comparative failure and many farmers concluded that it should be extensively seeded every year instead of occupying a subordinate place on the farm. Its failure last year resulted in its being dropped by many farmers, although a few put in a limited acreage. The rye crop has limitations for this or any other district, but it has a place as a supplementary crop to help insure a supply of feed in the form of hay, pasture, and grain as there are years when it furnishes a more abundant supply than other crops.

CORN

Experience and observation in this part of the country have led to the conclusion that corn can be utilized to a much greater extent as a crop to supply both fodder and grain for stock feeding. It has been used by a limited number of men for many years and the acreage has been gradually increasing. An effort has been made during the past year to secure a more general interest in this crop throughout the district, to disseminate information as to the best methods to follow in growing it, and by co-operating with a number of growers to get definite data on the suitability of several varieties for different parts of this region.

I had the co-operation of over 50 farmers in this work. They were located from within ten miles of the Montana line to as far north as township 25 and all east of range 11. I secured for each man sufficient seed of each of four varieties of corn to plant an acre. Most of them also planted an acre of sunflowers to compare the yield from the two crops. Each farmer paid for his own seed. The varieties of corn used were North-western Dent, Dakota White Flint, Gehu and Quebec No. 28.

The corn was planted by different methods according to the machinery available on the various farms, some of it being checked, some drilled on the flat and some listed. While good crops were raised by all methods of planting it was found difficult to keep the drilled fields free from weeds without hoeing. The checked fields were kept clean on most farms by using the cultivator only. I have no hesitation in recommending the check-row method of planting.

A few of those who planted seed in the spring failed to harvest a good crop, as cutworms and weeds took a certain toll, but the majority of those who co-operated in the work are satisfied that corn has a bright future in this part of the country for both fodder and grain. The North-western Dent proved to be the most popular variety for both purposes as it not only produced a good yield of well ripened fodder but ripened seed on most farms, and had the ears borne high enough on the stalks to permit of its being readily cut with the corn binder. The Gehu and the Dakota White Flint are good varieties for the production of grain, but as the ears are borne very close to the ground they are better adapted to "hogging off" in the field than they are for husking or cutting for fodder with the binder. The Quebec No. 28 is larger and somewhat later than these other Flints, but it matured nearly everywhere and had the ears high enough from the ground to enable the binder to be used in cutting.

The growers were nearly unanimous in favoring corn over sunflowers for fodder. On a number of farms the tonnage of sunflowers exceeded that of corn, but in the districts where there was a marked shortage of rainfall the corn withstood the drought much better and continued to grow after the sunflowers had dried up.

In handling the corn crop one of the difficulties encountered is the shortage of machinery, particularly for harvesting. This is being overcome in some districts by several farmers combining to invest in a corn binder, and in others by the owner of a binder cutting his neighbors' crops for so much per acre. Other difficulties have arisen through a larger acreage of corn being grown than could be properly cultivated, harvested and fed. Those who are starting to grow corn would be well advised to not grow more than ten acres the first year unless they have had experience elsewhere with the crop and realize the amount of work involved in attending to a given acreage.

There is going to be a real opening for a number of good men in each district to specialize in growing seed corn. Home grown seed of acclimated varieties cannot be surpassed, but this seed must be well ripened, harvested before severe frost, and carefully cured to insure high germination. Careless methods are bound to give disappointing results as the vitality of corn seed is more easily injured than that of any other farm crop.

Corn Bulletin:— A concise illustrated circular on corn-growing was prepared during the year to meet the many requests for information on this subject.

Methods of Summer-fallowing:— A number of demonstrations on methods of summer-fallowing were carried out during the year. There were two main objects in mind, first to show the effect of cultivation before plowing and second to compare the ordinary method of working the fallow with that used by those who advocate the use of the duck-foot cultivator instead of the plow. Eighteen men in widely separated districts undertook to carry on this work during the summer, but for various reasons they did not all carry it through. The majority worked some of their land without plowing and the balance was double-disked before plowing. The comparative efficiency of the two methods will be indicated by the crops next year.

Some of those who attempted to keep their land clean by using the duck-foot cultivator only, found it extremely difficult to do so last year on account of the frequent showers during June and July. The rains firmed the soil around the roots of the weeds after a cultivation before the sun had a chance to kill them. In some cases the plow had to be used after the cultivator had been used a number of times.

Many farmers attempted to use the cultivator method where the conditions were entirely unsuitable, on account of the land being polluted with grass, rose-bushes and buck brush. The plow is the only satisfactory implement for such land, and those who attempted to use the cultivator were sorely disappointed with the results.

Bean Growing:— As we have in this part of the province an average frost-free season of over 120 days it was thought advisable to try out an early variety of field

beans in different parts of the district. Being a cultivated crop, seeded thinly in rows and having a comparatively light stand, it would appear that they should withstand drought and produce a crop in some cases at least when other thickly seeded crops would succumb.

Seed of an early white variety which had matured at Brooks for the past four years was secured last spring and distributed in one pound lots to about 70 farmers widely separated. Only 15 of these sent in a written report, but having visited the farms of a number of the others I know that good crops of ripe beans were harvested. The average yield of those reporting was 21 pounds from one pound planted. One grower had 50 pounds and another 10 pounds—both without irrigation. Most of those who harvested a crop intend planting them next year.

Nearly all of the beans used in the prairie provinces—over 100 cars, are brought in from the outside, many of them being imported from the Orient. There is thus an excellent home market for all the beans we are likely to produce for some years, and this justifies an effort to have the crop well tried out on both dry and irrigated land.

Seed Fairs:—During the year I judged part or all of the exhibits at the following seed fairs: Lethbridge, Brooks, Bassano, Oyen, and the Provincial Fair at Edmonton. At each point a short address was delivered explaining the placings and indicating ways in which the exhibits could be improved.

Farmers' Meetings: I have attended and addressed forty-five farmers' meetings since my last report. Most of these were in the south eastern part of the province, but a number were around Lethbridge. The subjects discussed pertained mainly to the growing, handling, storing and feeding of fodder crops, particularly corn; methods of soil cultivation, the utility and construction of trench silos. A series of 12 meetings was arranged in co-operation with Medicine Hat Chamber of Commerce, at points within a radius of 20 miles of this point to discuss the planting of trees for shelter purposes and for farm beautification. Mr. Arch. Mitchell, lecturer for the Canadian Forestry Association, attended all these meetings on behalf of the Chamber of Commerce.

Poultry Culling: There is a growing appreciation of the value of the well-graded poultry flock as a dependable side line on the farm. A number of farmers in this district requested some help in culling their flocks, and I was able to arrange with the Poultry Branch to furnish a competent culler. Ten flocks with a total of 920 birds were culled. The owners seemed to be well satisfied with the work.

Office Work: There has been a marked increase during the past year in the amount of correspondence and in the number of farmers calling at the office for consultation on various subjects.

The present location of the office is not what one could wish as far as convenience for farmers is concerned. If it were more centrally located I believe many more would make use of the service at their disposal.

Respectfully submitted,

JAMES MURRAY,

District Agriculturist.

Report of the Brand Recorder

H. A. CRAIG, ESQ.,

Deputy Minister of Agriculture.

SIR,—

I have the honour to submit the following report on the work of the Brand Office for the year 1923.

During the year 633 horse brands and 806 cattle brands were allotted and recorded to their respective owners, while 221 transfers and 3 changes were duly registered. Certified extracts of brands numbered 16, while searches and strays numbered 4,019, being a total of 5,698 transactions.

Compared with the year 1922, these transactions show a decrease of 75 horse brands, 286 cattle brands, 4 transfers and 20 changes, while extracts show an increase of 7 and searches and strays an increase of 1,480.

The following table shows the different transactions which have taken place since separate records for the Province have been kept:

Year.	Horse.	Cattle.	Trans.	Changes.	Extracts, Searches and Strays
1906	1,361	1,894	384	38	72
1907	1,039	1,230	430	28	73
1908	1,103	1,225	421	29	292
1909	1,308	1,326	430	33	783
1910	1,891	1,672	524	34	1,218
1911	1,538	1,280	362	32	1,108
1912	1,545	1,542	374	16	1,655
1913	1,471	2,059	419	11	1,795
1914	1,964	2,629	395	18	1,932
1915	1,350	1,899	743	27	1,372
1916	1,503	2,833	463	28	801
1917	1,839	3,370	551	33	673
1918	2,161	3,455	617	40	985
1919	2,079	3,165	572	46	2,125
1920	1,363	2,133	514	39	1,944
1921	896	1,304	308	22	2,401
1922	708	1,092	225	23	2,848
1923	633	806	221	3	4,035
Aver. 15 yrs.	1,514	2,054	461	29	1,586

The number of applications for renewal of brands during the year was 1,450. The number of applications for renewal in 1922 was 1,449.

Respectfully submitted,

S. G. CARLYLE,

Recorder of Brands.

EXTERIOR AND INTERIOR VIEWS OF DAIRY BARNS ON ALBERTA GOVERNMENT FARM AT THE PROVINCIAL MENTAL HOSPITAL AT PONOKA

Report of the Dairy Commissioner

H. A. CRAIG, ESQ.,

Deputy Minister of Agriculture.

SIR,—

I have the honor to submit herewith the report of the Dairy Commissioner's Branch, for the year 1923.

I.—GENERAL.

The past year may be fairly characterized as a good year for those who were engaged in the dairy business. The fine rainfall during the early and middle part of the season produced enormous quantities of feed for the stock and induced a comparatively heavy milk production. As the attached sheet of statistical data shows, there was a material increase in the butter and cheese production of the province. While the prices for the dairy products were slightly lower than those of the previous year, they may still be said to be satisfactory when we consider the prices of other products which the farmer had to sell. The general prices for dairy products are still around 20 per cent. above the pre-war price levels.

Since the surplus dairy product finds its way to outside markets principally in the form of creamery butter and factory cheese, I submit the following particulars with regard to that phase.

CREAMERIES AND CHEESE FACTORIES.

There was a large increase in the number of creameries operated in the province during the past year, the total being 77. No less than 23 were put into operation during the season. Of these 18 were new and five were re-opened after having been closed for a time. New creameries were started by P. Burns & Co., Ltd., at Forestburg, Hardisty, Holden, Mannville and Pincher Creek. The Edmonton City Dairy, Ltd., established plants at Hay Lake, Kinsella, Monitor, Innisfree and Westlock. The Central Creameries, Ltd., of Calgary, opened creameries at Bowden and Youngstown. Individually-owned plants were opened (and re-opened) at Strathmore, Drumheller, Duchess, Hoadley, Sedgewick, Falher, Vegreville, Irma, Mayton, Onoway, Calgary (Consumers' and Producers' Milk Co.).

Fourteen cheese-making plants were operated during the year. New factories were established by the Edmonton City Dairy, Ltd., at Bruderheim and by Messrs. P. Burns & Co., at Bawlf and Metiskow. The cheese factories operated in 1922 by P. Burns & Co., Ltd., at Edmonton, by the Edmonton City Dairy, Ltd., at Ponoka, and the Crystal Dairy, Ltd., at Didsbury, were not re-opened. In other words the cheese production of 14 factories in 1923 was almost double that of the same number operated in 1922.

DAIRY STATISTICS.

(1) *Milch Cows on Farms:*

Year		Cows
1901	(Census)	46,101
1906		101,245
1911	(Census)	147,649
1912		157,922
1913		168,376
1914		179,068
1915		183,974
1916	(Census)	284,895
1917		325,861
1918		328,702
1919		336,596
1920		305,607
1921		391,190
1922		392,037
1923		411,446

(2) *Total Annual Value of Dairy Products:*

1900	(Census)	$ 546,476
1910	(Census)	7,855,761
1915	(Census)	15,895,586
1916	(Estimated)	18,466,311
1917	(Estimated)	24,794,597
1918	(Estimated)	27,500,000
1919	(Estimated)	31,625,000
1920	(Estimated)	34,000,000
1921	(Estimated)	25,500,000
1922	(Estimated)	22,950,000
1923		22,975,000

(3) *Creamery Butter Productions:*

Year	Creameries	Lbs. of Butter	Selling Value. $	c. per lb
1912	53	3,010,755	823,500	(27.352)
1913	49	4,115,537	1,090,475	(26.496)
1914	46	5,444,806	1,417,000	(26.025)
1915	57	7,544,148	2,021,448	(26.795)
1916	57	8,521,784	2,619,248	(30.736)
1917	66	8,944,171	3,414,541	(38.176)
1918	56	9,053,237	4,025,851	(44.469)
1919	53	11,822,890	6,132,739	(51.87)
1920	53	11,821,291	6,555,509	(55.45)
1921	44	13,048,493	4,543,007	(34.82)
1922	54	15,417,070	5,126,843	(33.25)
1923	75 (Est.)	17,750,000	5,724,375	(32.25)

(4) *Factory Cheese Production:*

Year	Cheese Factories	Lbs. of Cheese	Value. $	
1912	6	40,000	5,600	(14.00)
1913	7	70,716	5,900	(14.00)
1914	5	70,581	10,590	(15.00)
1915	13	381,832	68,441	(17.93)
1916	15	745,122	154,453	(20.73)
1917	20	1,274,905	280,185	(21.97)
1918	11	552,834	130,911	(23.68)
1919	10	520,530	145,161	(27.9)
1920	7	398,750	110,555	(27.7)
1921	10	930,660	200,478	(21.54)
1922	14	931,992	183,860	(19.73)
1923	13 (Est.	1,850,000	356,125	(19.25)

II.—BUTTER MARKETING SERVICE.

Following up the practice of former years, I submit the following tables giving summaries of butter sales through the Department's butter marketing service. In former reports these statements have been made by summer and winter seasons respectively. In 1923, however, it was decided to include the business handled during the calendar year, hence that period is covered by the statement submitted. In order, however, to complete the record, the receipts and sales for November and December, 1922, are also shown in a separate statement. The variation in the rates shown in the right hand column of the tables is due to several factors, but principally to the proportion of the butter produced during the periods

LOADING ALBERTA BUTTER FOR THE BRITISH MARKET

During the summer of 1923 several shipments of Alberta creamery butter were made to Great Britain via the Panama Canal. The picture shows a shipment of butter from the Central Creameries at Calgary being loaded aboard ship at Vancouver. Shipments were also made by the F. C. D., Edmonton.

of relatively high and low prices, and also to the difference in the grade (quality) of the butter in each case. Full particulars are furnished to the individual shipper respecting grades, price and the various deductions for freight and service charges as specified in the formal agreement covering this branch of the Department's marketing service. The quantity of butter handled during the past year under this arrangement represented 7¾% of the total creamery butter output of the province. The sales are made almost entirely in carload lots to the wholesale produce trade.

SUMMARY OF BUTTER SALES, NOVEMBER AND DECEMBER, 1922.

Creamery or Shipper	Pounds of Butter Sold	Selling Price at Calgary and Edmonton	Average Price per Pound Cents
Valhalla Co-operative Creamery Association, Valhalla	14,168	$ 4,965.24	35.05
Lakeview Creamery Association, Elnora	7,952	2,810.92	35.35
D. Morkeberg Creamery, Markerville	19,376	6,913.20	35.68
Red Deer Creamery, Red Deer	10,976	3,918.32	35.70
Viking Co-operative Creamery Association, Viking	38,444	13,954.92	36.30
Hanna Creamery, Hanna	29,680	10,411.24	35.08
A. E. Kofoed, Coronation	23,688	8,231.16	34.75
W. T. Nelson, Sunnyslope	560	189.00	33.75
Beaver Lake Farmers' Creamery Association, Ryley	9,450	3,301.76	34.94
Totals and Average	154,294	$54,695.76	35.45

SUMMARY OF BUTTER SALES, FOR THE YEAR 1923.

Creamery or Shipper	Pounds of Butter Sold	Selling Price at Calgary and Edmonton	Average Price per Pound Cents
Hartshorn Co-operative Creamery, Hartshorn	18,834	$ 5,850.28	31.06
Duchess Creamery Co., Duchess	18,344	5,542.62	30.21
Elnora Co-operative Creamery, Elnora	124,656	41,159.44	33.02
D. Morkeberg Creamery, Markerville	9,072	3,439.80	37.91
Red Deer Creamery, Red Deer	56,784	18,876.76	33.24
Hanna Creamery, Hanna	289,229	95,999.87	33.19
A. E. Kofoed, Coronation	288,201	93,088.15	32.30
Falher Creamery Co., Falher	55,720	17,899.28	32.12
Valhalla Co-operative Creamery Association, Valhalla	84,392	27,794.48	32.93
Viking Co-operative Creamery Association, Viking	397,446	133,741.06	33.65
Beaver Lake Farmers' Creamery Association, Ryley	38,640	13,547.66	35.06
Totals and Average	1,381,318	$456,939.40	33.08

III. GRADING OF CREAMERY BUTTER.

The Department's butter grading service was called upon during the year to grade a greater quantity of creamery butter than was handled during 1922. Arrangements were also made between the federal and the provincial departments whereby the graders were appointed federal dairy produce graders under The Dairy Produce Act. This arrangement was made so as to facilitate matters for the butter manufacturers in the province, who desired

to export direct from their plants or to market their butter subject to federal grade certificate.

There was graded during the year for provincial grade certificate 9,703,062 pounds of butter. In addition to that 1,073,256 pounds of butter were given initial grading for federal grade certificates, making a total as shown in the following table.

GRADING OF CREAMERY BUTTER, ALBERTA, 1917-1923.

Year	Creamery butter Manufactured Pounds	Creamery Butter Graded by Department of Agriculture				
		Pounds	Percentage in each Grade			
			Special Grade	First Grade	Second Grade	Off Grade
1917	8,944,171	4,644,646	56.3	36.3	6.7	.7
1918	9,053,237	5,427,134	50.4	38.6	10.3	.5
1919	11,822,890	6,830,308	29.7	50.8	18.9	.6
1920	11,821,291	6,120,325	19.0	55.6	24.7	.7
1921	13,048,493	5,954,991	7.7	66.7	24.7	.9
1922	15,417,070	7,264,219	27.5	55.0	16.3	1.2
1923	17,750,000 (Est.)	10,776,318	21.6	64.7	12.6	1.1

The figures in the last two lines of the table call for an explanation. While the percentage of special grade butter in 1923 was lower than that of the previous year, it will be noted that there was a marked decrease in the percentage of seconds and an increase in the percentage placed in first grade. Taking as a basis the usual price differentials paid for the different grades of butter in the Canadian market, the average value of the 1923 butter is a shade higher than that of the previous year, notwithstanding the smaller percentage of specials. It has been the experience that the markets in which most of the surplus butter is sold at present do not make any substantial difference in the price between butter graded special and that which is generally termed high scoring firsts (40-point flavor). A number of the creameries, therefore, made a practice of standardizing their butter production as nearly as practicable on the latter grade. Advices from the British market are also to the effect that until Canadian butter becomes better known to the buyers there will be little probability of a higher price being paid for special grade butter than for high scoring first. Extended reference was made in last year's report to the grading figures contained in the table for the years 1917 to 1922 and need not be repeated here.

IV. CREAM GRADING

It is generally recognized that the principle of cream grading is based upon the elementary fact that high grade butter can be made only from a good quality of cream, that such butter gives

better satisfaction than an inferior quality to those who handle and use it. It also gives better financial returns to those who produce it.

The practice of cream grading as a part of a definite, continuous and effective quality improvement programme in our dairy industry requires (1) that the individual lots of cream received at a creamery or other manufacturing or distributing plant be classified into one of several well defined standard grades and (2) that the payment for the butterfat that is contained in the cream shall be based upon a price or rate that will represent its relative quality or value for the use intended.

In other words, there must be a grading of both the quality of the cream and the price that is paid for the butterfat contained in it. When and where the cream grading practice is adopted the individual cream producer is given his choice of markets within the range of the grades specified at the price offered, and is made an interested, active, working partner in the general scheme of the quality basis marketing of the finished product. A partnership of this character is desirable.

The marketing of creamery butter on the basis of grade has for some years been a generally accepted principle in the produce trade and, since the quality and condition of the cream determines, to a large extent, the relative market value of the butter made from it, it is logical and right that the cream should also be marketed upon the basis of quality.

The foregoing merely restates the proposition that has been before the dairymen of this province for the last 14 years and it will be remembered that at the beginning of the season of 1922 an arrangement was entered into by dairymen and the Department for the establishment of a provincial cream grading service, for the purpose of insuring the carrying out more effectively and uniformly the quality principle of the marketing of cream. Although this matter is discussed at some length in the Department's annual report for 1922, it should be stated here that the new arrangement worked out so satisfactorily that a resolution was unanimously adopted by the provincial dairy convention asking that it be continued for the year 1923. Under this arrangement 57 provincial cream graders were employed at the various creameries during the season's peak production; during the earlier and latter part of the year when the cream production was smaller the number of graders employed was not so great. The average cost to the industry of the provincial cream grading service was half a cent per pound of butterfat contained in the cream graded by them. The following statement gives an interesting comparison of the quantity and average test of cream handled by provincial graders and also the relative percentages as classified into the different grades during the past two years.

	1922	1923
Lbs. Cream Graded	30,778,344	41,824,366
Lbs. Butterfat	10,185,277	13,713,758
Average Fat Test	33.1 per cent.	32.8 per cent.
Table Cream	2.3 per cent.	4.1 per cent.
Special Grade	32.4 per cent.	39.1 per cent.
First Grade	37.3 per cent.	40.5 per cent.
Second Grade	27.2 per cent.	16.1 per cent.
Off Grade	.8 per cent.	.2 per cent.
	100.00 per cent.	100.0 per cent.

It will be noted that a material improvement is shown in the grading of the cream handled during the past year. It is very evident that the cream producer appreciates the opportunity that is given him of choosing his market for cream within the limits of grade standards and price differentials paid by the purchasers. While the very gratifying reduction in the percentage of second grade cream is, to some extent, due to the change that was made in that grade standard at the beginning of the season, at the same time there has been a material all round improvement and it is but fair to expect that this rate of improvement will continue for some time. The interesting fact to be noted here is, that practically 65 per cent. of the cream and butterfat shown in the foregoing statement was produced during the four months June, July, August and September. This shows to what extent our production of creamery butter is a seasonal proposition which will have an important bearing upon the development and retention of export markets.

ACKNOWLEDGMENTS.

In closing this report, I desire to commend the helpful individual attitude that has been shown during the past year by the dairy factory operators and cream producers in the province in the effort that our dairy industry is now making to place its surplus production upon a high quality plane. They have shown a broad conception of the principle of the quality basis marketing and "vertical" co-operation. The development of this principle from the initial producer on the farm to the final market for the finished product is of paramount importance in that it opens up wider market possibilities and promotes a desirable form of co-operation and competition measured in terms of service.

I also desire to commend the good work cheerfully done by my co-workers in this Branch, in the field as in the office and at the grading posts.

Respectfully submitted,

C. P. MERKER,

Dairy Commissioner.

Report of the Provincial Veterinarian

H. A. CRAIG,

Deputy Minister of Agriculture.

SIR,—

I have the honour to submit herewith the Annual Report of the Provincial Veterinarian's Branch for the year 1923.

The work of the Branch is concerned with general conditions relating to the health of the stock in the Province, the supervision of the health and care of the livestock kept on the Demonstration Farms, assisting the farmers and ranchers in the prevention and eradication of those diseases which do not come under the Animal Contagious Diseases Act of the Dominion Government, and educational work relating to diseases of livestock.

EDUCATIONAL WORK

During the Agricultural School term of 1922-1923 the courses in the Science of Applied Veterinary Medicine were given by the same instructors who handled this subject during the previous year, namely, Dr. Sweetapple, Dr. Buchanan, Dr. Moon and Dr. Haworth at the Olds, Claresholm, Vermilion and Raymond Agricultural Schools, respectively. In addition to the regular lectures which include instruction in the care and treatment of sick animals, treatment for wounds, etc., the pupils are given the benefit of special discussions by the Provincial Veterinarian, with particular reference to the experimental work being carried on by this Department in various parts of the Province, and with the contagious diseases affecting livestock.

At the College of Agriculture, University of Alberta, the Veterinary Science lectures given to the senior classes there deal more thoroughly with the various diseases affecting livestock, the best means of preventing them, and with the most successful and up to date methods of eradication.

EXPERIMENTAL WORK

We have have made numerous experiments during the past year in connection with contagious abortion and sterility in cattle. In this work we have received excellent co-operation from Dr. T. B. Harries, of the Strathmore Demonstration Farm; Mr. F. H. Reed, of the Lacombe Demonstration Farm, and Mr. G. H. Hutton, Superintendent of the Agricultural and Animal Industry Branch of the Canadian Pacific Railway, Department of Natural Resources, Calgary. From the C.P.R. Farm, Strathmore, and the Experimental Farm, Lacombe, we took a number of cows affected with vaginitis and sterility, isolated and injected them with the live bacillus abortus vaccine. Up to the present this experiment has apparently given highly desirable results, especially at the Strathmore Farm where ten of the worst cases are now well along in

calf, and we expect them to carry them to the full time. Our present opinion is that if all the animals suffering from this cause could be kept isolated and injected with bacillus abortus vaccine, and not bred until at least six weeks later, a large percentage could be got with calf. We have also tried out the vaccine abortus bacterin as a preventive against abortion. Although none of the animals inoculated this spring have aborted, the check animals also retained their calves to the full time, and we are not therefore in a position to say whether the experiment has been a success or not.

In our last report we recommended a number of principles to be followed in the care and housing of livestock, and if these measures received adherence and careful study from the stockmen in the Province we feel sure that great headway would be gained in the prevention of, not only contagious abortion, but other diseases as well. The value of sanitation cannot be over-estimated, and as we do not believe these recommendations can be improved upon we are therefore repeating them for the benefit of the public.

1. Farmers should breed and raise their own cattle, thus excluding the danger of introducing outside infection.

2. In herds where abortion has occurred we believe every cow should be handled as though she were known to be infected, and regarded so until she is proved otherwise.

3. We are advocating a separate stall, or better still, a small stable on every farm, for cows at calving time. It should be comfortable, convenient and constructed so as to be easily disinfected.

4. Prior to parturition, the cow should be taken from the herd and placed in the maternity barn. She should be kept there until all discharges following have ceased.

5. Cows believed to be about to abort, or showing even slight symptoms of aborting, should be placed in the maternity stable.

6. Straw from the maternity barn, all after-births, aborted calves, or ones which have died at birth, must immediately be burned, or if buried should be covered with quick-lime.

7. The disinfection of the building must be thorough. Strong solutions of Creolin, Kreso, or Corrosine Sublimate are suggested, and in addition it may be fumigated with formaldehyde before another cow goes into it.

8. Any cow showing symptoms of abortion or nearing normal calving should be placed in the maternity barn. All pregnant cows should be seen and carefully examined by the herdman every day.

9. All newly purchased animals should be kept isolated for at least thirty days. The test for the determination of their health should be applied before they are allowed to run with the herd.

10. Herd bulls should be kept for home cows only, and not for the neighbors' cows.

11. When abortion has occurred in the stable the cow should be isolated immediately, the fetus and placenta burned or buried, and the stable cleansed and disinfected thoroughly. Where abortion occurs in the pasture it should be handled in the same way; the ground in that vicinity should be well sprayed with a strong disinfectant, or covered with several layers of lime.

12. The careful disinfection of the cervical canal of cows which have aborted, at least once a day with *one-quarter of one per cent.* (.25%) *Lugol's solution* until all discharges have ceased.

13. When the cow comes in heat regularly the cervical canal is washed daily for two days before and three days after coming in season with a one-quarter of one per cent. Lugol's solution. Again, in eighteen days, the same process is repeated. When bred, she is washed daily for twenty-one days with the same solution, and so far practically every cow has carried her calf to the full term of pregnancy.

14. The vulva, tail and neighboring parts of all exposed cows should be washed daily for at least two weeks with antiseptics, such as 3% solution of carbolic acid or creolin, or a 1-1000 solution of corrosine sublimate.

15. Good clean food and water are essential to have healthy stock. The feed should be preserved and stored properly, guarding against contamination with disease-producing organisms.

16. Do not feed unsterilized milk from herds where abortion is present, or from creameries, to calves or sows. Sows are susceptible to contagious abortion infection.

17. From our experience we find that many of the vaccines and serums claiming to prevent abortion are in the experimental stage and until we can secure more information from their administration we advise against their use.

18. Many are advocating the agglutination and complement-fixation tests for bovine abortion. We believe it is accurate in picking out infected animals, but the difficulty seems to be in obtaining the blood samples in the proper manner. It is possible that, with trained men to conduct the tests, much useful work could be done along this line.

STERILITY

A sterile animal is of little value to a breeder, as the success of the industry rests entirely upon the capability of the stock to reproduce young. Therefore, if after several attempts it seems impossible to get an animal started breeding, it is up to the owner to do something. The old procedure in a case of this kind was to have the animal slaughtered, if fit for food, but now the breeder first tries to locate the cause, after which he is in a better position to remedy the trouble. In a surprising number of cases the cause has been successfully eliminated and animals which were appar-

ently hopeless non-breeders have been started, after which there is usually very little, if any, trouble. However, we believe that sterility cases should always be handled by a qualified veterinary surgeon, as it would be dangerous to have the work done by incompetent hands.

There are several forms of sterility, the most frequently met with being caused by disturbance of the ovaries. The great majority, in fact about 75% of sterility cases, are caused by retention cysts or inflammation of the ovaries. From our observations we note that in only a small number of cases do cattle become pregnant in the left horn of uterus, and cysts are more common in the right ovary than in the left: We also find sterility caused by metritis. In cases of acute metritis we find that the application of astringent solutions such as zinc sulphate and potassium permanganate give fairly good results, but in cases of chronic metritis we prefer to take up the fluids with absorbent cotton and spray the cavities with ichthyol. We have invariably found that in a case of infected cervix it is quite impossible to get the animal to breed before the inflammation has been removed. However, persistent applications of Lugol's solution will usually cure this trouble, unless the inflammation has extended to other parts of the genital tracts.

GOITER

Goiter is perhaps the most prevalent disease with which we have to contend. It not only affects horses and cattle, but is causing considerable losses in sheep and swine. It is known to the farmer as "big neck" in new-born calves and lambs, and as "hairless pigs" or "hairlessness" in new-born pigs.

We have made a careful study of this disease with particular reference to distribution, conditions under which the animals are fed and housed, and the appearance of the soil and water supply on the premises. From our observations we note that the trouble usually occurs in those districts around the foothills of the Rocky Mountains, and along streams whose sources are there.

The cause of the trouble is not yet known, but it is believed that the extensive feeding of green-feeds, allowing the animals to eat snow instead of supplying water, lack of exercise and the drinking of snow water are all factors which have to be considered. We might also point out that weather conditions apparently have something to do with the number of animals affected with the trouble, the percentage being considerably increased with a long winter season.

The symptoms in the different classes of stock are somewhat similar. In calves and sheep there is a marked swelling of the neck which is almost identical, although it is harder to detect in sheep on account of the thick wool. However, not all calves affected with goiter show a swelling of the neck, although all appear weak at birth. Foals show a lack of vitality, knuckle at the fetlocks, increased pulse and breathe laboriously, gradually growing weaker until death takes place, which is usually from two days to a week after birth. In the case of a litter of pigs, some may be born

hairless while others are apparently normal, and we have known of litters which were not altogether hairless but had a thin coat of fine downy-like hair. After several weeks of careful treatment they grew healthy and appeared to be quite normal.

Treatment:— We have received the best results from the administration of Iodine. However, we wish to emphasize the fact that this drug must be regularly and carefully used if the results obtained are to be satisfactory. It is our opinion that if it were given throughout the period of gestation, the loss from goiter will be greatly lessened, and we recommend that it be administered to all pregnant animals in those districts where this disease occurs. From our experiments we have found that it is most conveniently administered in the form of a solution. Following are several methods which have been tried out with varying success.

1. One ounce of potassium iodide dissolved in one gallon of water is the proper proportion and one tablespoonful of this solution should contain two grains of the drug, and constitutes a dose each day. For mares and cows it may be sprinkled on the feed. In the case of sows it may be mixed with the feed or water, and when there are several sows in the one pen one tablespoonful may be added for each animal. Where it is desirable to give it to range cows or large numbers of ewes it may be mixed with coarse salt. For this purpose it may be prepared as follows: "Dissolve five ounces of potassium iodide in as small a quantity of water as possible. Spread 100 lbs. of salt evenly upon a clean floor and sprinkle the potassium iodide solution carefully over it. When dry, place in boxes in the yards where the animals may have access to it at all times."

2. It has been suggested that potassium iodide may be effectively administered in the drinking water "one-quarter of an ounce placed in the trough being sufficient for 50 cows." Our experience has been that this is an unsatisfactory method of handling the drug.

3. At the suggestion of various Experimental Stations we have tried pouring tincture of iodine directly on the skin. During 1922 and 1923 we have been trying out this method, and believe we are in a position to state as to its efficiency. Our experience at the School of Agriculture, Claresholm, in this connection was interesting. This experiment was carried on by Mr. P. Cook, herdsman at the Demonstration Farm, who gave me splendid co-operation in this work. Our aim was to find out the best method of administration, and certain indications led us to believe that applying iodine externally had a number of advantages over giving potassium iodide internally.

Five ewes were given 30 drops of tincture of iodine every two weeks during pregnancy. The wool was parted carefully and the drug placed directly on the skin. It must also be noted that the liquid was never put on the same spot twice. The following spring the five ewes gave birth to nine lambs, all of which lived and seemed to be in excellent condition. In fact we never had more vigorous lambs on the farm. The ewes recovered quickly

from the effects of parturition and were in splendid health and flesh. These ewes ran in a corral all winter, with access to a stable with the door open, except of course in the very cold weather. The feed consisted of Alfalfa Hay and Oat bundles.

As a comparison to the above experiment with Tincture of Iodine we took five ewes and gave them Potassium Iodide in one grain doses in solution during the months of pregnancy. It should be noted that while under observation we noticed, that although they apparently fed well they seemed indifferent to drinking water, and some days would not drink at all. Of a total of nine lambs dropped, all died immediately or shortly after birth. Those born alive would not take nourishment and their breathing was very labored. It was noticeable that all the lambs were small and very thin, while the ewes were in exceptionally good condition. The housing facilities were the same as in the other group, but they were fed Alfalfa Hay and Oat Chop. We are carrying on these experiments the coming year in an endeavor to obtain the same results.

STALLION ENROLMENT ACT

The number of enrolment certificates issued for the season of 1923 is considerably below the figure for 1922. The farmers and horse breeders in the Province seem, in a great many cases, to be quite discouraged with conditions in the breeding industry, namely, the prevailing low prices and the difficulty of securing service fees for stallions. There also seems to be a little misunderstanding among the farmers in connection with the reading of the Stallion Enrolment Act, a number of whom have asked us if they could themselves seize colts for fees. They claimed that the value of the colts was not enough to warrant their paying for the seizure. However, this cannot be done without the assistance of a sheriff or sheriff's deputy.

Following is a summary of the enrolments for 1923:

	Enrolments.	Interim.	Total.
Percheron	217	111	328
Clydesdale	141	58	199
Belgian	57	24	81
Shire	8	5	13
Suffolk	3	1	4
Standard-bred ...	3	3	6
Thoroughbred	4	3	7
American Saddle		1	1
Hackney	2	1	3
French Coach ...			
Grades	18	16	34
Jacks	5	3	8
Grand Total	458	226	679

Respectfully submitted,

P. R. TALBOT,

Provincial Veterinarian.

Report of the Field Crops Commissioner

H. A. CRAIG,

Deputy Minister of Agriculture.

SIR,—

I have the honour to submit herewith the Annual Report of the Field Crops Branch for the year 1923.

The work of this Branch for the year 1923 consisted of the supervision of field crop competitions, combined seed crop and cleaned seed competitions, good farms competitions, local seed fairs, inspection of fields of grain eligible for registration, plowing matches, the operation of a central cleaning and grading plant for the handling of registered seed, the securing of markets for Alberta seed, school fairs, and to a limited extent, the supervision of weed control and eradication. The Provincial seed fair is operated under this Branch also.

NOXIOUS WEED INSPECTION

During the year 1923 no weed inspectors were appointed. The only work done was in the form of correspondence. Advice on weed control and eradication was given in this way. Attempts are being made with a certain American machine company to have introduced into this Province an adjustment to the grain separator for taking weeds out of grain at the time of threshing. Such a machine is available, but the cost of same would appear to be too great. Strong hopes are entertained that in the near future all grain threshed in this Province can be cleaned by some such device.

PLOWING MATCHES

Plowing matches were held at Lacombe, Lamont, Rochester, Priddis and Millarville, and at Buckeye, east of Carstairs. Rain interfered at Lamont and also at Priddis and Millarville. At the other places large crowds were in attendance and much interest was manifested. The competitions were keenly contested, and some very excellent plowing was done. After each match addresses were given by the judges and others. Professor MacGregor Smith, and W. J. Stephen acted as judges.

FIELD CROP COMPETITIONS

Field crop competitions, combined seed crop and cleaned seed competitions and good farms competitions were held at High River, Lake Saskatoon, Wainwright, Camrose and Lloydminster. Messrs. J. D. Foster, H. W. Scott and F. S. Grisdale did the judging. In each case the entries were large and the crops showed the effects of good farming; this coupled with good weather conditions and the good quality of seed which is being used generally by the competitors meant that these competitions in 1923 were a signal success.

Local Seed Fairs

Agricultural societies holding local seed fairs, with dates and judges, were as follows:

Bowden	Jan. 5th	F. S. Grisdale
Lousana	Jan. 6th	W. J. Stephen
Lake Saskatoon	Jan. 6th	W. D. Albright
Olds	Jan. 7th	W. J. Stephen
Magrath	Jan. 10th and 11th	M. L. Freng
Brooks	Nov. 14th	Prof. J. J. Murray
Lethbridge	Dec. 4th	Prof. J. J. Murray and M. L. Freng
Provost	Dec. 13th	Prof. Fryer
Sedgewick	Dec. 14th	Prof. Fryer
Leduc	Dec. 17th	W. J. Stephen

Notice has been given of as many more seed fairs to be held in the early part of 1924. The judges reported a larger number of entries than usual at each fair and a considerable improvement from last year in the quality of exhibits.

Provincial Seed Fair

The Provincial Seed Fair held at Edmonton, January 16th to 19th inclusive, was the finest display of seed grain, grass and clover seeds, and potatoes, ever held in the Province of Alberta. Prizes were given for the first time for boys' and girls' exhibits. The number of entries in this section were rather small but the quality was good. The first grain-judging competition for boys from the Schools of Agriculture was held, Olds Agricultural School winning the silver cup donated by the College of Agriculture, Edmonton.

Practically all the winners and exhibitors at the International Hay and Grain Show, Chicago, which was held in December, 1922, competed. The competition for the best exhibits made up by the agricultural societies was very keen, Brooks Agricultural Society winning first prize.

An excellent display of grasses and grain, threshed and in the sheaf, was put up by the publicity branch of the Department of Agriculture. These exhibits were collected by Mr. Frank Peterson in the Province of Alberta. The Brooks Agricultural Society, under the direction of Messrs. Bark and Grafton, had a fine display of agricultural products raised on irrigated land.

The total amount of prizes paid by the Department of Agriculture was $2,227.25. Special prizes were given by the United Grain Growers' Grain Company, the Alberta Pacific Grain Company, and P. Burns & Company.

Government Cleaning and Grading Plant

The Provincial Government cleaning and grading plant ended its first year of operation on April 30th, 1923. Sixteen thousand, five hundred bushels of registered wheat and oats passed through the plant, where it was cleaned, graded and sacked. The Dominion Government inspector inspected each sack, sealed it and attached

to it the Dominion Government registration certificate. All seed was sold and in addition orders were received for approximately ten thousand bushels. These latter orders were distributed amongst farmers in Alberta who had registered seed on their hands. Seed was shipped to Europe, to thirteen States of the Union, British Columbia, Manitoba, Saskatchewan and Ontario. It was very gratifying to note the interest taken in this seed by the farmers of Alberta who bought a large proportion of it.

Seed for the second year's operation began coming in on November 1st, 1923. Approximately fifty-eight thousand bushels of wheat, oats and barley had been received and the prospects for marketing same are very bright. The public has manifested a great deal of interest in this new enterprise, visitors daily inspecting it from all over Canada, United States and several from Great Britain and Europe. It has been generally conceded that the plant is the most up-to-date of its kind in the world.

Assistance was given in field inspection to the Dominion Seed Branch, Mr. G. M. Stewart, Calgary, having charge of this work.

The Field Crops Commissioner, being a Director of the Canadian Seed Growers' Association, attended a convention of the Canadian Seed Growers' Association at Saskatoon; many subjects of interest to the producer of registered seed were discussed. The convention ended satisfactorily for the Alberta growers.

ALBERTA SEED GROWERS' ASSOCIATION

During the year 1923 at the time of the Provincial Seed Fair there came into existence the Alberta Seed Growers' Association, the objects of which were:

1st—To co-operate with the Crop Improvement Association to the extent of assisting them as far as practicable in the marketing of their seed.

2nd—To further and protect the interest of the producers of registered seed and Extra No. 1 seed throughout the province.

3rd—To assist in maintaining a high standard in the quality of seeds.

4th—To adopt such other means of assisting the general movement as may be expedient from time to time.

To date there is a membership of one hundred and eighty five Alberta farmers. The Executive consists of:

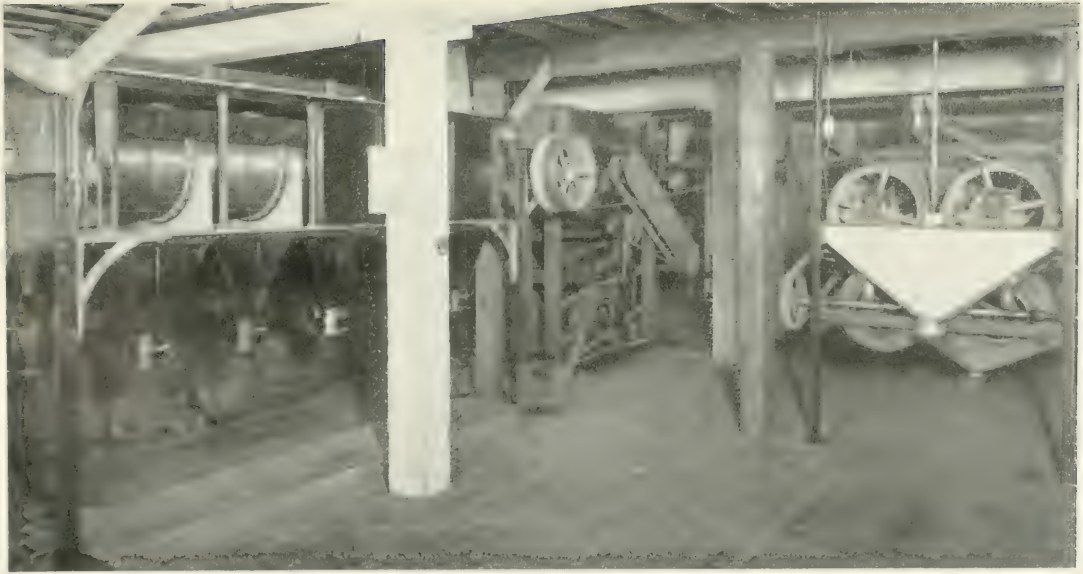
President—Major H. G. L. Strange.

1st Vice-President—G. M. Stewart.

Sec'y Treasurer—W. J. Stephen.

Directors—J. W. Lucas, E. C. Halman, Don Bark.

The Executive gives advice to the Government in the operation of the cleaning and grading plant and also in the marketing of registered seed which goes through the plant.



ALBERTA GOVERNMENT SEED CLEANING PLANT AT EDMONTON

CHICAGO EXHIBIT

The Field Crops Branch was responsible for the putting up of exhibits from Alberta at the International Hay and Grain Show at Chicago in December, 1923. A demonstration exhibit under the heading of "University of Alberta" was also put up. This latter consisted of specimens of grains, grasses and clovers, alfalfa, corn, beans and peas. The large number of prizes won, together with the University exhibit, brought a great deal of publicity for Alberta. Farmers and business men from different parts of Canada and the United States interviewed the Government representatives on this occasion. It would appear that the results attained would give a great impetus to immigration, particularly from the United States into Alberta. The following prizes were won by Alberta exhibitors:

Wheat

Grand Championship Major H. G. L. Strange, Fenn.
1st Major H. G. L. Strange, Fenn.
3rd H. Trelle, Lake Saskatoon.
4th H. Norman Fisher, Sedalia.
12th A. C. B. Grenville, Morrin.
21st Geo. F. Stooke, Drumheller.

Oats

Grand Championship J. W. Biglands, Lacombe.
1st J. W. Biglands, Lacombe.
4th A. F. Garrew, Vermilion.
5th F. S. Grisdale, Olds.
6th W. Lucas, Cayley
7th J. W. Lucas, Cayley
9th W. Walters, Innisfail.
10th D. S. Lougheed, Knee Hill Valley.
11th D. W. Trotter, Shepard.
13th J. Tattersall, Vermilion.
14th A. Young, Roydale.
16th Dr. Allin, Edmonton.
18th Saida Trotter, Shepard.
23rd A. Lougheed, Bowden.
26th R. McAllister, Eldorena.
30th F. E. Brown, Vauxhall
31st Wm. Lougheed, Bowden
32nd F. H. Dunstan, Lloydminster.
33rd Ben Berry, Fedorah.
34th D. B. Winters, Mannville.
35th C. F. Lougheed, Bowden.

Timothy Seed

8th Wm. Lucas, Cayley.
10th J. W. Lucas, Cayley.

White Field Peas

1st H. G. L. Strange, Fenn.
3rd J. W. Lucas, Cayley.
4th F. S. Grisdale, Olds.

Colored Field Peas

5th F. S. Grisdale, Olds.

Six-Rowed Barley

19th R. A. Meeks, Mannville

Two-Rowed Barley

3rd Nick Taitinger, Claresholm.
10th J. W. Lucas, Cayley.

Trebi Barley

3rd J. W. Lucas, Cayley.

White Spring Wheat

7th J. W. Lucas, Cayley.

Rye

2nd J. W. Lucas, Cayley.

Flax

7th A. Lougheed, Bowden.
14th F. H. Dunstan, Lloydminster.

Red Clover

1st Nunnomaker Bros., Brooks.

Alfalfa Seed

2nd Nick Chelte, Brooks.

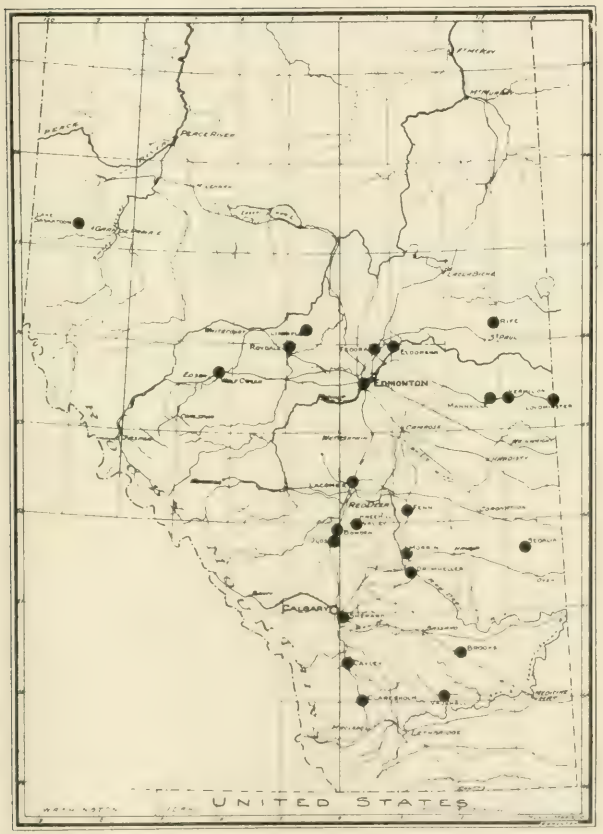
SCHOOL FAIRS

In 1923 there were held in the Province of Alberta, one hundred and twenty-four school fairs, in the following inspectorates: Bassano, Calgary, Camrose, Coronation, Edmonton, Foremost, High River, Lamont, Lethbridge, Macleod, Medicine Hat, Olds, Onoway, Oyen, Peace River, Red Deer, Stettler, St. Paul, Trochu, Vegreville, Vermilion, Wainwright, Westlock and Wetaskiwin.

Representatives from the Schools of Agriculture, Mr. H. W. Scott, of Sedgewick, and W. J. Stephen had charge of the direction of school fairs throughout the province. These men worked in close touch with the school inspectors in the various inspectorates and with the Provincial Department of Education.

The following seeds were supplied by the Department of Agriculture to the various school fair centres: carrots, beets, parsnips, Swede turnips, cabbage, mangels, peas, sweet peas and a choice of two varieties from the following list: pansies, asters, poppies, candytuft and portulaca. Below are the quantities supplied in 1923:

Beets	1,500 lbs
Carrots	590 lbs.
Peas	3,500 lbs.
Mangels	1,250 lbs.
Turnips	548 lbs.
Parsnips	503 lbs.
Cabbage	3,075 pkts
Sweet Peas	523 lbs.
Pansies	4,700 pkts.
Asters	7,550 pkts.
Poppies	3,900 pkts.
Candytuft	5,800 pkts.
Portulaca	2,900 pkts.



The above map shows by the black dots, the locations of the farms of the Alberta farmers who won prizes in seed grain in world competition in the 1923 International Hay and Grain Show at Chicago, when Alberta exhibitors won four championships and forty-four prizes. The map shows that the prize-winning was not confined to any particular portion of the province but was very widely scattered. The names of the prize-winners and their addresses are given on the two preceding pages.

The Department supplied judges for the various school fairs held in the fall. In addition the department printed instructional circulars, entry tags and prize cards, and supplied mounting cards and insect pins for plant and insect collections.

Two-thirds of the money for livestock prizes is also paid by the Department, providing this portion does not exceed $75.00 for each school fair centre. It may be of interest to note that one hundred and eighty-five thousand entry tags were supplied, giving some idea of the large proportion to which school fairs in Alberta have attained.

CO-OPERATION WITH OTHER BRANCHES

It has been the aim of this Branch to endeavour to co-operate with other branches of the Department. Much valuable assistance has been received by way of judging, speaking at meetings, etc., while in return members of this Branch have attended and addressed numerous meetings in the interest of better farming.

Respectfully submitted,

W. J. STEPHEN,
Field Crops Commissioner.

Report of the Poultry Commissioner

H. A. CRAIG,
Deputy Minister of Agriculture.

SIR,—

I have the honour to submit herewith the Report of the Poultry Branch for the year 1923.

One of the chief features of interest is the rapid growth the poultry industry is making as shown by an increasing export egg business. In 1923, 48,609 cases of eggs were shipped from Alberta to other provinces in the Dominion, chiefly Ontario and Quebec. In addition 6,100 cases went into export, 3,000 of these going to England and the remaining 3,100 cases to Scotland. There were 3,343 cases of eggs imported from the United States during the months of November and December, which leaves a net exportation of 51,366 cases or approximately 114 car loads. The growth of this export trade in eggs is perhaps better reflected in the record of inter-provincial shipment inspections. In 1921 there were 15 inspections (inspection average about 300 cases). The number of inspections in 1922 increased to 76 and in 1923 to 154. The records indicate that Alberta was an importing province in 1920, having to import in that year supplies from outside to complete the requirements of the local markets. In 1923, three years later, production had increased to such an extent as to provide the surplus indicated. This Province has become one of the principal egg exporting provinces in the Dominion.

From the statistical data available Alberta is shown to have had in 1923 approximately 4,400,000 hens. Placing the average production per hen at six dozen eggs, which we believe to be a conservative estimate, the year's crop would be approximately 26,400,000 dozen which is equal to 880,000 cases or approximately 13 cases per farm. It is impossible to ascertain the exact quantity of eggs consumed on the farm, but we know it to be large, particularly in the harvesting season. Probably three-fourths of the production is thus disposed of, leaving 220,000 cases as the commercial crop which enters trade channels.

Definite data respecting the production and consumption of dressed poultry on the farms of the Province is difficult to secure. The amount shipped to market, however, is more easily estimated from a knowledge of the volume of stocks handled by the produce houses. From this it is estimated that the weight of live poultry sent to market in 1923 is approximately 3,500,000 pounds. It is also estimated that 100 car loads or 1,500,000 pounds of this were shipped to markets outside of the Province.

The range of prices throughout the year for eggs and poultry is given in the following table:

EGGS

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Extras	40	40	25	22	21	20	21	25	34	34	39	45
Ones	35	35	22	20	19	18	19	22	31	32	36	40
Twos	25	25	17	16	14	13	12	16	22	22	24	27

These prices are f.o.b. Edmonton.

POULTRY

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Springers	14	14	14	14	..	..	..	16	16	14	13	12
Fowl	12	12	12	12	..	10	11	12	12	10	12	11
Turkeys	20	20	20	20								
Ducks	13	13	13	13				16	12	12	12	10
Geese	13	13	13	13				16	12	12	12	10

Prices are live weight f.o.b. Edmonton.

TURKEY PRODUCTION

The high prices which turkey growers obtained for several years following the war induced many of the farmers of the Province to increase their operations in this regard. This attitude was characteristic of farmers throughout the entire continent in fact, and as a consequence a much greater crop of turkeys was produced in 1923. The conditions in Alberta, however, were somewhat unfavorable for turkey production. The spring months were so continuously wet that many producers were ill prepared for their increased operations and had not provided suitable protection for the young stock. As a result a great number of flocks suffered heavy mortality and it is doubtful if the 1923 crop in Alberta, in spite of the extra effort to increase it, was any larger than the crop of the previous year.

THE TURKEY MARKET

The turkey market for the year 1923 saw prices paid that were somewhat discouraging to the producer.

The source of the trouble was largely the over-production throughout the continent. The United States, which in previous years had been a buyer of Canadian turkeys, was closed to us on account of their own oversupply. New York and Boston markets went to lower levels than had been experienced for many years past. In addition to this, Canadian birds are subject to a duty of six cents per pound dressed weight on entering the States, which made it impossible for us to compete with the American growers on their own markets. Moreover, Eastern Canadian weather was unfavorable to creating a demand. At our best market, Montreal, rain fell steadily for several days, with the result that the market became dull and listless. Local prices declined steadily, the price finally getting down to 12c-14c for dressed heavy birds. In some instances lower prices than these were paid.

The total weight of co-operative community killed turkeys handled by the Egg and Poultry Marketing Service was 245,299 pounds, ten cars in all. These were all shipped to eastern markets.

If the co-operative work of the Egg and Poultry Marketing Service had not been done and the stocks handled had remained to be disposed of on the local markets, it would have resulted in a worse glut than has ever been experienced, with prices corresponding. It is therefore obvious that co-operation between the Marketing Service and the producers has prevented a bad year from becoming a disastrous one.

Doubtless the effect of the low prices that the American grower has realized will to some extent discourage him, and if so production in the future should be somewhat more profitable.

Our producers have shown that the right kind of bird can be raised in Alberta, and those producers and districts that stay with the co-operative community killing and marketing of turkeys year after year, taking the breaks as they come, and are not discouraged unduly by one bad year coming as 1923 did after three years of good prices, will realize that turkey raising is profitable, and community killing and marketing a safe and sound way of disposing of their flocks.

The following communities arranged community kills and pooled their lots of dressed turkeys, the Calgary Branch of the Marketing Service organizing the work and handling the selling: Duchess, Brooks, Bassano, Nanton, Blackie, Sunnynook, Pollockville, Rockyford, Rosebud, Gleichen, Empress, Bindloss, Coronation, Monitor, Pincher Creek.

The Poultry Branch has had the continued cordial co-operation of the officers of the Dominion Poultry Department in this and other marketing work.

THE EGG AND POULTRY MARKETING SERVICE

The Alberta Egg and Poultry Marketing Service in 1923 handled 660,822 dozen eggs or 44 cars and 925,494 pounds of poultry, or 62 cars. These figures show an increase in eggs handled of 225,822 cases, or 15 cars, and poultry 368,000 pounds, or 24 cars.

It has been the business of the marketing service not only to give service to the producers in Alberta in the matter of finding the most profitable outlet, but to effect improvement as far as possible, in the method of handling and shipping. One effort of this kind which has brought good results is the freight movement of live poultry from country points in the province to Calgary and Edmonton. The marketing service started this movement in 1922 with the resultant gain of a considerable saving in transportation. In 1922 fourteen carloads were moved into Edmonton. This past year both branches of the marketing service greatly increased the movement. It was also taken up actively by the various produce houses, and upwards of 120 carloads were handled in this way.

To illustrate the advantage gained by moving the poultry to local markets by freight in car lots as against express in small crate lots, I can give the exact figures covering 18 cars received

by the marketing service. The freight and other incidental expenses in connection with assembling the loads at the country points cost an average of $1.65 per hundredweight. The express would have cost on the same quantity of poultry and from the same points an average of $2.88 per hundredweight, showing a difference, or a saving to the producer of $1.23 per hundredweight. On the 120 cars moved in this way during the year there will have been saved to the producer by this movement alone an amount approximating $18,000.

Cars of live poultry were loaded at the following points: Nanton, Bassano, Crossfield, Carstairs, Didsbury, Innisfail, Bowden, Lacombe, Blackfalds, Bentley, Three Hills, Trochu, Elnora, Lousana, Delburne, Hanna, Craigmyle, Delia, Sunnynook, Cheadle, Langdon, Namaka, Strathmore, Okotoks, Blackie, Vulcan, Carmangay, Claresholm, Provost, Lloydminster, Kitscoty, Islay, Vermilion, Bashaw, New Norway, Dorenlee, Czar, Edgerton and Grande Prairie.

The shipping of live poultry out of the province principally to markets in B.C. is another movement initiated by the marketing service. This was begun in an experimental way in 1922 and found to be practicable. Last year it was undertaken much more extensively and 26 cars were shipped principally by the Edmonton Branch, 18 of these going to Vancouver, and 8 to Ontario and Quebec, principally to the city of Montreal. Other firms also participated in this movement, shipping a total of 9 cars, all of which went west. This makes a total of 35 cars of live poultry moved out of the province and is the first effort of any size in a very important marketing movement. Consuming markets prefer their poultry alive or fresh killed and it is a satisfaction to know, as a result of these efforts, that the producers in Alberta can compete with other producing sections of the country in supplying the large consuming centres in both the east and the west.

The following statement shows the volume of eggs and poultry handled by the Egg and Poultry Marketing Service each year since the beginning of the service;

	Eggs	Poultry	Total
1917	15,000 doz. or 1 car		1 car
1918	137,900 doz. or 10 cars	59,000 lbs. or 4 cars	14 cars
1919	77,000 doz. or 6 cars	75,000 lbs. or 5 cars	11 cars
1920	169,000 doz. or 12 cars	110,000 lbs. or 7 cars	19 cars
1921	178,000 doz. or 13 cars	245,000 lbs. or 16 cars	29 cars
1922	435,000 doz. or 32 cars	557,000 lbs. or 37 cars	69 cars
1923	660,822 doz. or 48 cars	925,000 lbs. or 62 cars	110 cars

REDUCED EXPRESS RATE GRANTED ON LIVE POULTRY

Through the instrumentality of the Poultry Branch a very substantial reduction in their rate has been granted by the express companies which now makes the winter shipping of live poultry in car lots feasible. The general tendency of Alberta poultry producers has been to market all of their surplus poultry in a very limited period in the late fall and early winter. This invariably

gluts the few markets available and greatly affects the price unfavorably. The Provincial Department of Agriculture has endeavored through the activities of the Egg and Poultry Marketing Service to correct this practice of dumping by inducing the producers to distribute their selling over a wider period. It was a comparatively simple matter to commence the shipping earlier in the fall than usual, but a very much more difficult matter, involving a below-zero weather shipping problem, to extend the period beyond the New Year. The shipping by freight in the fall and early winter has been demonstrated by the Egg and Poultry Marketing Service to be quite practicable and this has greatly reduced the cost of transportation, such method having been adopted by the various members of the produce trade, but the shipping of live poultry in the severe weather has proven to be quite a different problem. The birds then must be gotten to their destination, Vancouver or to the eastern markets, with much greater despatch and protected to some extent against the cold.

To solve this difficulty the Poultry Branch approached the Express Companies, applying for an express rate practically 50 per cent. below the then existing rate. This concession was granted and the first car of poultry was shipped by the Egg and Poultry Marketing Service on December 11, leaving Edmonton at 11 o'clock p.m. on the 11th instant, and arriving in Vancouver on the 13th, at 7:35 a.m. The former rate, Edmonton to Vancouver was $7.30 per hundredweight. The new reduced rate is $3.75 The car shipped contained springers, fowl, turkeys and ducks and sold readily at good prices on the Vancouver market.

The car lot express rate Edmonton to Toronto, Montreal and Buffalo has also been reduced from $12.50 per hundred weight to $6.25 per hundredweight as a consequence of specific request from this branch of the Department.

THE PROVINCIAL POULTRY PLANT

During the summer all of the stock and equipment were moved from the university grounds to the Oliver farm, where there has been provided accommodation to house a much larger number of birds.

On December 31 the plant carried the following stock: 1,391 birds, consisting of Barred Rocks 373, White Wyandottes 395, Rose Comb Rhode Island Reds 79, Buff Orpingtons 174, Single Comb white Leghorns 342, Rose Comb White Leghorns 10 and Rose Comb Brown Leghorns 18. Of these 1,165 were females, a great proportion of which will be used as breeders during 1924. This is the largest number of females ever carried on the plant.

During the year the plant continued its usual work of distributing eggs for hatching, breeding stock and day-old chicks to farmers throughout the province. There was a marked increase in the demand from school fairs for eggs for hatching of the several breeds.

During the period from November 1, 1922, to October 31, 1923, a pen of Barred Rocks from the poultry plant competed in a laying contest held at Lethbridge. The pen laid 1,480 eggs in 52 weeks. Two of the birds made very good individual records, one bird 267 and the other 222 eggs.

In the fall of the year a Newton Giant Mammoth Incubator was purchased by the Department for the plant with a capacity of 14,400 eggs. This has been installed in the new incubator cellar on the Oliver farm. With this machine it is hoped the department will be in a position to more nearly meet the demand among the farmers for day-old chicks. This demand is increasing annually and even though in the past orders have been limited to a small number of chicks to each, many farmers have been disappointed through inability to supply their demands.

The officers of the plant have found an increasing demand for information concerning methods of feeding and breeding which the plant is demonstrating. During the year, through having to move the stock and buildings, the exact breeding and feeding work has been somewhat disorganized. This, however, is a temporary condition which will shortly be corrected and it is the plan in the future to enlarge on breeding and feeding tests in order to give the farmers in the province the information in this connection that they require.

Respectfully submitted,

J. H. HARE,

Poultry Commissioner.

Report of the Director of Demonstration Farms

H. A. Craig,
Deputy Minister of Agriculture.

Sir,—

I have the honour to submit, herewith, the annual report of the Provincial Demonstration Farms for 1923.

The crop of 1923 on the provincial farms was exceptionally good, owing to the vast amount of moisture coming at the growing season, namely: the months of June and July, although the conditions in the early spring made everything look doubtful owing to no reserve moisture in the soil. The spring opened up rather early and the land made a good seed-bed with enough moisture to make a good germination. These conditions and the fine weather made it possible to put the land in the best possible condition to absorb this vast amount of moisture, making enough reserve for the coming season. The crop made rapid growth with the sunshine and abundance of moisture, making a very heavy harvest.

The yield of grain was good on most of our farms with the exception of Raymond Farm, where hail visited this farm twice before the harvest, making the yield of barley very light. The oats being somewhat later, the hail did not injure this crop so badly.

On the Claresholm Farm wheat made an average yield on 30 acres of 61.3 bushels per acre. Oats on a large acreage from 90 to 125 bushels per acre.

At the Olds Farm, the yield of oats and barley was exceptionally heavy. Oats an average yield of 90 to 135 bushels per acre. Barley from 50 to 70 bushels per acre. All the other crops made good yields.

Youngstown Farm, although in previous years had practically no crop, this year gave a fair average yield of oats, wheat and barley, and with the abundance of rain, leaving quite a reserve moisture in the summer fallow land for the coming year.

Stony Plain, Vermilion and Athabasca, the crops were fair, average yields of oats and barley. Wheat is grown only in small areas.

The Ponoka farm was operated by the Department of Agriculture until September 1, and at that time was taken over by the department of health. The crop, although not harvested at that time, was a very heavy one, and I think everything was left in the best possible condition. When this farm was taken over by the Department of Agriculture on January 1, 1922, conditions were not good, as the barns were of the old type for dairying, and located in a very undesirable location. With the co-operation of the public

works department a new site was chosen, and a new modern dairy barn was erected, equipped with all the latest conveniences for dairying, with a new dairy building in connection for the care of milk, and with the new horse barn and box-stall barn making the layout one of the most modern equipped farms. During the early summer we had broken 80 acres and it is now ready for the 1924 crop. This addition of land will add to the productive value of the farm, as there is a large acreage with only a small portion under cultivation.

Fall Rye

Fall rye has been grown successfully on most of the farms for several years, but during the last year has not been grown in as large acreages owing to the larger acreage of alfalfa and sweet clover. On some of the farms there is still small acreage given for the production of pasture and rye hay. This crop makes a very good hay if cut at the proper time

During the past winter we carried on an experiment with one group of steers, and again we are feeding one group this winter, to compare this hay with alfalfa and green-feed, as to their feeding value.

Alfalfa

Alfalfa has been growing on two of the farms under the irrigation system, and during the past year we had a very heavy yield.

At the Raymond farm this clover was cut twice giving a very heavy yield. The third cutting did not mature until late in the fall, and was not cut owing to the difficulty of leaving the roots exposed to the winter frost, without protection. This was pastured for about five or six weeks with the steers that we are putting on experiment, and these steers made very heavy gain while on this pasture.

At Claresholm farm, where dry farming operations are carried on, we had a very heavy yield. This was seeded broadcast and in rows. The former method gave a larger yield than the latter, but the conditions were very favorable.

Sweet Clover

This crop did well during the past season. At most of the farms we have large areas seeded to this clover. In most cases this made a very good quality of hay, when the weather conditions were favorable.

At the Claresholm farm where the largest acreage was grown the crop stood over five feet high, and so thickly on the ground, making it nearly impossible to walk through. Part of the first crop was harvested for hay and the balance used to fill the silo. This was cut through the cutting box, and tramped, solidly, in the silo. We are now carrying on experiments with steers to compare the feeding value of this clover with corn and sunflower, as silage.

As this is the first year that we have used this clover for silage, I can say nothing further about it until the experiment is ended. We also used this clover hay as roughage on steer experiments last winter, on one group of steers, and again we are carrying on this same experiment this year. The steers, on this hay, made very good gains last year, as the steer experiment table will show.

CORN

Owing to the cool wet weather in June and July the corn crop on the farms did not make a very rapid growth. This crop must have warm weather, and with good cultivation can be grown with less moisture than many other silage crops. With the above conditions the crop did not make as heavy yields as in previous years.

SUNFLOWERS

This crop gave a very heavy yield in most districts, as the seed will germinate in cool weather. The cool, wet weather does not affect this plant after it is once rooted in the soil, as it makes a very rapid growth, and gives a very heavy yield per acre. This crop has been fed successfully, as a silage, on most of our farms for experimental purposes for the feeding of steers for the market, and has proved a good crop to grow in the southern districts where the other silage crops do not yield as heavy a tonnage per acre.

TURNIPS

Turnips were not grown on many of our farms as we have no proper cellar for the storing of this crop in the winter, so we can only grow a limited acreage as these have to be fed up before the cold weather. Turnips can be grown successfully in the province. I would like, if it were possible, to have a proper place for the storage of this crop to compare the feeding value versus ensilage for the finishing of steers and lambs for the market.

RAPE

This crop was not grown extensively as in previous years, only in the districts where the grass pastures begin to fail in the early fall. Rape will add to the production of milk for the dairy herd to keep them in condition, and to increase the flow of milk that is badly required at that particular season of the year. It makes excellent pasture for hogs, and sheep, and for lambs to finish them for the early market, and cannot be dispensed with for its feeding value.

STEER FEEDING

We are again carrying experiments with steers at most of the farms. Some of these are duplications of last year's, with a larger number feeding as commercial steers. We have two experiments at two farms with calves, yearling, two years old, and three years old. These are to compare the different ages as to their feeding quality, and the most economical gains on the feed consumed.

STEER AND LAMB FEEDING EXPERIMENTS

During the past winter feeding experiments were carried on at the Provincial Farms with steers and lambs to determine the feeding values of the different kinds of roughages for feeding steers, also to compare corn and sunflower ensilages.

The experiment with lambs was to compare some of the different kinds of feed for finishing commercial lambs for the market.

The steer experiments were carried on with ninety-three head of grade steers of Shorthorn, Hereford and Angus breeding. Sixty-four of these were purchased at the Calgary Stock Yards, the balance purchased at Athabasca and Sedgewick districts, where they were fed.

At the beginning of each experiment, each group was weighed separately, and weighed every two weeks during the experiment. All feed consumed, by each group, was weighed and record kept of same.

These steers were as uniform as was possible to obtain at the time they were purchased, although differing in weights. All were dehorned, which made them more profitable for feeding.

At the end of each experiment the final weight was taken and the steers valued at the actual price per lb. that could be realized at the Farm where fed.

At the end of the experiment, all feed, freight, commission and all expenses were charged against each group while on experiment.

This experiment will be carried over a period of four years. One year's results would not give a fair estimate of the value of these feeds, as it is found in each group some individual steer will not make the gain of the other steers in the same group. These steers were not disposed of until a later date on the Calgary and Edmonton Stock Yards where we realized the price of from 6½ to 7¼ cents per lb. The results show a substantial profit in most of the groups.

All roughages used in these experiments were charged at the market values in the districts where fed. In all cases where ensilage was used in experiments, the steers made a heavier gain, and at a more economical cost. All of the ensilage used was from trench silos, with the exception of Sedgewick, and in all cases was in the best possible condition.

The lamb experiment was of much interest, as these lambs were purchased on the Calgary Stock Yards at 10c per lb. and were sold in the same yards for 12c per lb. The lambs were divided in groups of seventeen, and each group with a different kind of roughage, and a grain ration of ground oats in each case. Most of these lambs responded to feed, but we had the misfortune of two of them dying during the experiment, but in no case did any of these groups show a loss. All groups showed a gain as high as thirty four lbs. in some groups. This experiment shows that

with the right kind of lambs, and care, that a profit can be made of lamb-feeding.

LIVE STOCK

All the flocks and herds on the different Farms, during the past year, made a satisfactory increase. We had no contagious diseases of any kind, but we had the misfortune to lose one of our herd sires, Village Cornerstone, one of the best breeding bulls in the Province. Although we have quite a number of females and young males on hand it makes a heavy loss to our Branch. At the Raymond Farm we are again establishing a Jersey herd for dairying, as we had a few of these cattle distributed at several of the farms for classroom purposes. We have now put them all at the farm mentioned as a nucleus of a herd, and we hope to be able to build up a herd of this breed equal to the one we had a few years ago, as this Farm is particularly adapted for dairying, with the production of alfalfa hay and plenty of succulent feed for the production of milk. The only other dairy herd is at the Vermilion Farm, where we have a herd of Dairy Shorthorns. Some of these are outstanding individuals, and with the imported herd sires we shall be able to improve our herd as to production and individuality in a few years. At the present time we lack enough pasture land for the expansion of a larger herd, as we have only a limited amount of land for the production of feed for the winter feeding. If we could secure some more pasture land adjacent to the Farm, for the use of heifers and dry cows, we should be able to keep the cows that are in milk on better pasture, and to get better results as to production.

Respectfully submitted,

D. DOUGLAS,
Farm Director.

Report of the Superintendent of Fairs

H. A. CRAIG,

Deputy Minister of Agriculture.

SIR,—

I have the honour to present herewith the Report of the Superintendent of Fairs for the year 1923.

The season of 1923 was not a very favorable one for fairs in respect of weather. Only seventy-nine fairs were held, although one hundred and eight Agricultural Societies had been assigned dates for fairs. Twenty-nine were cancelled owing to adverse crop conditions the previous year, wet weather, and early harvest. These societies thought it better to cancel their fairs rather than run them at a loss, and many of them expect to be able to hold a much more successful and larger one in 1924. In two or three cases the societies think it wise for them to disorganize and start again by amalgamating with another district which will enable them to be stronger and more successful. The majority of the fairs were successful and according to the judges' reports some of them were remarkably well managed. I notice that the most successful were those which were well supported by the local exhibitors and where keen interest was taken by the public in the exhibits and the judging, and where side-shows were conspicuous by their absence, as these tend to defeat the purpose for which the fairs are held.

Of the seventy-nine fairs held, the judges reported nineteen good, thirty-seven fair and twenty-three poor. Some of the fairs which received high scores were Bear Lake, Bowden, Brooks, Claresholm, Daysland, Goose Creek, Grande Prairie, High River, Killam, Lacombe, Okotoks, Pandora, Patricia, Pincher Creek, Trochu, Vegreville, Viking and Winnifred. The Exhibition Associations all held successful fairs.

The number of livestock judges were reduced, there being only thirty-eight employed this year as against sixty-two in 1922. I sent out several young recognized stockmen, who had never done any judging at fairs but in whom I had every confidence, and in each case these young men gave perfect satisfaction. Judges' score cards were again used and proved very advantageous in enabling the Department to keep a record of the fairs' activities. The following are the questions which appear on the judges' score cards:

	Points
As Regards Number and Quality of Livestock Entries	30
Quality of Grains, Grasses, Roots and Vegetables	10
Domestic Products and Ladies' Work	10
Support of Fair by Local Exhibitors	15
Grounds and Equipment	10
Interest of Public in Exhibits and Judging	10
Management of Fair	15
	100

REMARKS:—Give report in detail respecting the following: Weather. Attendance (estimate of number present). Did harvesting interfere with Fair? Was there keen competition generally? Were side-shows a prominent feature? Which breed of horses, cattle, sheep and swine predominate? What improvement would you recommend?

In going over the judges' reports I find that the following breeds predominated at the fairs in 1923: Horses, Clydesdale; cattle, Shornhorn; sheep, Shropshire; swine, Yorkshire and Berkshire.

Too much attention, however, should not be attached to the percentages given by judges, as these men very often differ in opinion.

There has been considerable discussion and correspondence in regard to the late payment of the Government grants. I might say that it has always been the custom to pay grants as soon as the estimates are passed by the legislature. A good number of societies do not send in their returns properly completed, which necessitates extra work and time lost in the payment of the grant. The principal fault is the lack of an authorized Bond of Indemnity by the Secretary or Secretary-Treasurer.

Weather :— There were some very heavy rains in July and August which affected the attendance and entries at several of the fairs scheduled during these months. These rains were followed by hot weather and brought the harvesting season somewhat earlier, which had a tendency to interfere with the fairs held in the latter part of August and the month of September.

Exhibits of vegetables, grains and grasses were of the usual high quality. The ladies seem to be taking more interest in the fairs, as their exhibits of work have been commented upon by the judges.

Changes in the Act: — The grant has been reduced from 60 per cent. to 50 per cent. of the amount actually paid out for prizes; and the grant on membership has been reduced to 25 cents for one hundred to one hundred and fifty members. If a society has a membership exceeding one hundred and fifty the sum of 50 cents is allowed, but no society shall receive a greater sum than one hundred dollars therefor.

Poultry Shows: — These have been held at the following places during the winter period: Calgary, Coronation, Edmonton, Lethbridge, Magrath, Medicine Hat, Nanton, Oyen, Provost, Red Deer, Sedgewick and Vulcan. A very keen interest is usually taken in these shows and they are proving beneficial to the communities in which they are held.

Horticultural Exhibitions: — These were held successfully at Bellevue, Calgary, Camrose, Edmonton and Red Deer. The Lethbridge District Potato Growers' Association held a combination seed grain and potato fair.

Respectfully submitted,

P. R. TALBOT,
Superintendent.

LIST OF ALBERTA AGRICULTURAL SOCIETIES AND SECRETARIES FOR 1923, WITH DATES OF FAIRS

SOCIETY	DATE OF FAIR	SECRETARY	ADDRESS
Alix	Aug. 16–17	S. C. Andrews	Alix.
Bashaw	Aug. 9–10	J. A. Marshall	Bashaw.
Berry Creek	Sept. 7	L. E. Helmer	Pandora.
Bowden	Aug. 8	Mrs. W. A. Hills	Bowden.
Bye-Moor	Aug. 8	P. O. Minson	Busby.
Bear Lake	Aug. 22–23	S. F. O'Brien	Bear Lake.
Brooks	Sept. 12–13	D. H. Bark	Brooks.
Benalto	July 31–Aug. 1	A. Norton	Benalto.
Carmangay	Aug. 6–7	C. H. Messenger	Carmangay.
Chauvin	Aug. 1	P. H. Perry	Chauvin.
Claresholm	Aug. 3	Jas. McKinney	Claresholm.
Cochrane	Sept. 20–21	F. W. Maggs	Cochrane.
Colinton	Aug. 31	J. A. D. Robertson	Colinton.
Crossfield	July 4–5	F. I. Batcheller	Crossfield.
Cardston	Aug. 13–15	W. H. Duce	Cardston.
Daysland	Aug. 1–2	N. A. Houghton	Daysland.
Eastern Alberta	Aug. 7–8	S. F. Burgess	Provost.
Goose Creek	Aug. 1	F. B. Mundy	Lougheed.
Grande Prairie	Aug. 29–30	W. H. Watts	Grande Prairie.
Granum	July 30–31	M. R. Matheson	Granum.
Greencourt	Aug. 24	Fred. Jones	Greencourt.
Hanna	Sept. 5	S. G. Watt	Hanna.
Hays	Aug. 15–16	W. C. McKay	Lousana
Highland	Oct. 3	Leslie Stephens	Delia.
High River	Aug. 9–10	J. A. Massey	High River.
Innisfail	Aug. 6–7	W. G. McArthur	Innisfail.
Innisfree	Sept. 18–19	W. H. Collisson	Innisfree.
James River and Eagle Valley	Sept. 20	G. L. LeHeup	Mound.
Kitscoty	Aug. 14	W. H. Mair	Kitscoty.
Lacombe	Aug. 2–4	Jno. McKenty	Lacombe.
Lake Saskatoon	Aug. 8–9	H. C. Cooper	Lake Saskatoon.
Lamont	Aug. 10	G. R. Stewart	Lamont.
Langdon	Aug. 3	Walter Allcock	Langdon.
Leduc	Aug. 7–8	A. R. Ennis	Leduc.
Lloydminster	July 30–Aug. 1	H. Huxley	Lloydminster.
Macleod	Aug. 8–9	R. J. E. Gardiner	Macleod.
Mid-Pembina	Sept. 7	A. D. Gilmer	K. E., Box R.R.1, Busby.
Milnerton	Sept. 19	A. Hutchinson	Milnerton.
Mosside	Aug. 31	T. Richmond	Mosside.
Munson	Aug. 9	R. R. Fraser	Munson.
Morinville	Aug. 15–16	J. B. Dalphond	Morinville.
Nanton	Aug. 7–8	Wm. Robertson	Nanton.
Okotoks	Aug. 14	E. A. Hayes	Okotoks.
Olds	Aug. 9–10	R. B. Campbell	Olds.
Oyen	July 24–25	F. C. Bliss	Oyen.
Plamondon	Aug. 17	J. M. Ulliac	Plamondon.
Ponoka	Aug. 15–16	L. I. Stuart	Ponoka.
Priddis and Millarville	Aug. 4	R. T. Knights	R.R. 1, Calgary.
Pincher Creek	Aug. 15–16	H. Bossenberry	Pincher Creek.
Patricia	Sept. 10–11	Dempster Havens	Patricia.
Red Deer	July 23–25	Robert Patterson	Red Deer.
Rochester	Aug. 30	R. Goguillot	Rochester.
Rocky Mtn. House	Aug. 27–28	J. Horne	Rocky Mtn. House.
Rimbey	Aug. 17	W. Geo. Masson	Rimbey.
Sangudo	Aug. 22	R. Miehlhausen	Sangudo.
Sibbald	Aug. 2	C. O. Dudley	Sibbald.
Stavely	Aug. 1	M. E. Malchow	Stavely.
Stony Plain	Aug. 28–29	Wm. Robertson	Stony Plain.
St. Paul	Aug. 24	Sylvester Cyr	St. Paul.
Strome-Killam	July 30–31	R. J. McGowan	R.R. No. 1, Killam.
Swalwell	Aug. 9–10	Ian U. McLennan	Swalwell.

Taber	July 26–28	Fred Watkins	Taber.
Three Hills	Sept. 12	C. P. McDonough	Three Hills.
Tofield	Aug. 17	D. A. Ball	Tofield.
Trochu	Aug. 7–8	C. J. Christie	Trochu.
Vegreville	Aug. 8–9	Chas. Fulton	Vegreville.
Vermilion	Aug. 2–3	W. E. Sutton	Vermilion.
Viking and Birch Lake	Aug. 14	Wm. McAthey	Viking.
Wainwright	Aug. 16	Samuel Lewthwaite	Wainwright.
Warspite	Sept. 3	Wm. Pickard	Warspite.
Waterhole	Aug. 17–18	H. M. Bailey	Waterhole.
Westlock	Aug. 24	C. H. Gawain	Westlock.
Wetaskiwin	July 30–Aug. 1	C. D. Smith	Wetaskiwin.
Winnifred	July 19–20	T. L. Parker	Winnifred.
Youngstown	July 31–Aug. 1	Jas. J. Baker	Youngstown.

EXHIBITION ASSOCIATIONS

Calgary	July 9–14	E. L. Richardson	Calgary.
Edmonton	July 16–21	W. J. Stark	Edmonton.
Camrose	July 26–28	D. M. G. Omond	Camrose.
Lethbridge	July 31–Aug. 2	R. W. Gardner	Lethbridge.

AGRICULTURAL SOCIETIES WHICH CANCELLED FAIR DATES

Big Valley	Fred Biggs	Big Valley.
Busby	P. O. Minson	Busby.
Castor	A. H. Scheffler	Castor.
Chinook	W. A. Cruickshank	Chinook.
Coronation	T. N. Cuthbert	Coronation.
Deseret (Magrath)	John T. Steele	Magrath.
Didsbury	G. A. Wrigglesworth	Didsbury.
Donalda	T. J. Preston	Donalda.
Bonnyville and Durlingville	E. P. Olivier	Bonnyville.
Edgerton	N. Davidson	Edgerton.
Edson	R. E. Thurber	Edson.
Fort Saskatchewan	Chas. Eaken	Fort Saskatchewan.
Irma	W. Masson	Irma.
Lomond	W. H. Smith	Lomond.
Medicine Hat	C. A. Richardson	Medicine Hat .
Mannville	D. M. Malin	Mannville.
Nakamun and Sion	J. B. Nixon	Sion.
Onoway	J. Edwards	Onoway.
Paddle River	A. Downie	Barrhead.
Peace River	H. E. Dunning	Peace River.
Raymond	J. F. Anderson	Raymond.
Retlaw	W. A. Hampel	Retlaw.
Richdale	J. G. Coupland	Richdale.
Sedgewick	E. S. Clemens	Sedgewick.
Spirit River	David Esplen	Spirit River.
Starland	J. A. Richardson	Rowley.
Stettler	G. T. Day	Stettler.
Thorhild	H. A. McGregor	Thorhild.

Report of the Game Commissioner

H. A. CRAIG, ESQ.,
Deputy Minister of Agriculture.

SIR,—

I have the honor to submit herewith the Eighteenth Annual Report of this Branch, covering the administration of The Game Act and Prairie Fires Act, for 1923.

REVENUE

While there has been a gradual increase in revenue each year since the organization of this Branch, the increase during the present year has been in excess of any previous year. With a surplus over and above expenditure amounting to $63,823.32, this being greatly in excess of 1922 which was considered very satisfactory.

While the collection of revenue is not ordinarily considered as having any relation to the protection of game, I am of the opinion that there is nothing that appeals to the general public, at the present time to such an extent as a good financial showing, and while it is not generally realized, I believe it is conceded that game protection, if successfully carried out is nothing more nor less than a business proposition. It is usually considered good business to invest $10.00, if it will result in the obtaining of $15.00, also with respect to game protection, if by expending $1,000.00, it results in obtaining an additional $1,500.00 over and above that previously collected, the Province has been the gainer unless excessive killing of our wild life has been permitted. Many of the States of the Union find it necessary and consider it good business to import game birds for propagation purposes, to be turned loose to provide sport for sportsmen who in turn purchase licenses for the privilege of shooting, in this way contributing to the state treasury in excess of the amount expended for the protection and introduction of game for sporting purposes. We are fortunate in not having to do this to provide shooting for our sportsmen who contribute to the revenue of this Department, yearly to the extent of from forty to fifty thousand dollars; but it is not wise to restrict expenditure to such an extent that our game will not receive the protection to which it is entitled, thereby allowing it to decrease in numbers due to excessive shooting or other causes. Breeding stock in sufficient numbers is an absolute necessity, if we are to retain our supply of big game animals and game birds, to say nothing of our fur bearers, the revenue from which is no small item, which for 1923, amounted to over $40,000.00. With proper conservation of fur bearers, big game animals and game birds, succeeding generations have as great opportunities as the present generation to enjoy the sport of hunting, shooting and trapping, whether for pleasure or profit. While the present supply of wild life does not apparently show any great depletion, it will be well I think to anticipate possibilities and build

up an organization for the protection of our wild animals and birds to meet the possible inroads of our increasing population, which it is believed will be much greater in a very few years with a proportionate increase in the killing of big game, game birds and fur bearing animals.

BIG GAME ANIMALS.

I am pleased again to be able to report a plentiful supply of all species of big game, with the exception of elk and antelope. While antelope are in all probability holding their own as to numbers, it is doubtful if the elk are doing so. Those that were imported by the Dominion Parks Department and turned loose in the Rocky Mountains and Jasper Parks are thriving. It would appear that the only band of Alberta elk, which are located, near the foothills between the Brazeau and Pembina Rivers are being molested to some extent. Unfortunately this is the only band of elk left in Alberta, in their wild state. Those which a few years ago were located in other sections of the province, have, according to latest reports, been exterminated. It would be well, therefore, if something could be done towards preserving this last band, and in order that this may be done effectively, it would be well, I think, to have their range declared a game preserve, and one or two game guardians appointed, to give special attention to the preservation of these animals.

Moose are still plentiful in the various districts in which they are found, although a few reports have been received, as to their being infested with wood ticks, dead animals being found, which supposedly were killed due to the sapping of their strength by this pest.

Deer.—There appears to be no apparent reduction in their numbers, in spite of the fact that one thousand animals and upwards are killed each year.

Woodland Caribou.— While there are a few bands of these animals in the northern sections of the province, they are probably more plentiful in the inaccessible sections of the mountains to the north of Jasper Park.

Mountain Sheep and Mountain Goat.—Reports would indicate that these animals are holding their own, as to numbers—the usual quantity being obtained by hunters, both residents and non-residents.

GAME BIRDS.

Prairie Chicken (Sharp-tailed Grouse) are still plentiful in some sections, although there is a scarcity reported in areas where they were plentiful in 1922, the wet weather of June being somewhat trying on the young chicks. It would appear that the supply of these birds is now on the decrease and within a short time, they will probably be so few in numbers, that a close season will again be necessary. This scarcity occurs about every tenth year and is in

all probability due to disease with which they become infected, with the result that they shift to new feeding grounds to sections where they may recuperate, after which they return to their usual haunts and if the seasons are favorable, they again rapidly increase in numbers. There appears to be no information available as to the disease which affects these birds, but it is believed that it is similar to that affecting the grouse of Scotland, and while the numbers shot, as well as those destroyed by natural enemies, will have its bearing on conditions, this combined with the disease is what really results in the periodical reduction in numbers.

Partridge (Ruffed Grouse) were exceptionally plentiful in all wooded and brushy areas. Usually when there is a scarcity of Sharp-tailed Grouse, a scarcity of Ruffed Grouse is also noticed.

European Grey Partridge (Hungarian Partridge).—These birds are still very plentiful and increasing rapidly. They are found in sections of the province each year, where they have not been previously noticed. In sections of the province lying between Calgary and Lethbridge, which suffered from an exceptionally heavy hail storm in the month of June, it would appear that these birds were reported as being comparatively few in numbers, as compared with former years, but it is believed that a sufficient number escaped to re-stock the area within a year or two.

Ducks.—These birds were plentiful during the latter part of the season. On the opening date, the supply was very disappointing in many sections. This may have been due to low water in sloughs and lakes causing a scarcity of natural food, with the result that they frequented those areas where their usual food supply was more plentiful.

Canada Geese.—Since the spring shooting of these birds has been prohibited, there has been a very noticeable increase in the numbers breeding in the southern and central sections of the province, with the result that sportsmen are obtaining better bags than in former years.

DAMAGE TO FARM CROPS BY GAME BIRDS.

It is expected that the change in the open season for ducks from September 1st to September 15th, would necessitate the issuing of a much greater number of permits to destroy these birds where found damaging farm crops. This did not prove to be the case, as for some reason, there were fewer permits asked for than in 1922. Four permits to destroy Prairie Chicken (Sharp-tailed Grouse) on account of damage to farm crops were issued, which resulted in the killing of 35 to 40 birds. The permittees, however, on being interviewed were convinced that the birds were not doing sufficient damage to justify shooting them before the open season, and unless the situation is somewhat different in the future, these parties will not again ask for a permit for this purpose.

FUR-BEARING ANIMALS.

Foxes.—I referred in my report for 1922, to the taking of foxes during the spring and summer months and holding them in small pens until winter, when they were killed for their pelts. This was continued until July 1st, 1923, when the amendment to the Act prohibiting the taking of foxes between April 1st and November 1st became effective. A great many inferior pelts have been marketed, due almost entirely to this habit of taking and penning foxes during the summer months. It is hoped that the close season will be observed, as trappers will find that by doing so, that a much better class of pelts will be placed on the market, better prices will be realized and the reputation that Alberta bears in the matter of the production of the best quality of fox pelts will be maintained.

Beaver.—As in previous years, permits have been issued to land owners or their agents, to the south of the 55th parallel to trap beaver on their land, where these animals are causing damage. There were 141 permits issued, under which there were captured 559 pelts, from which the Department derived a revenue of $2,059.62, being 25% of the amount derived from the sale of beaver pelts by tender.

Muskrats.—The spring catch was disappointing, due to the fact that rivers and lakes were very late in opening up, in fact, in many instances the ice did not break up until after the season had closed. This resulted in a much smaller catch than usual. It was also to some extent undoubtedly due to the fact that these animals have been over-trapped in recent years, owing to the splendid prices obtainable for their pelts. The prices in turn encouraged a greater number of trappers to undertake the trapping of these and other fur-bearing animals. On the opening of the muskrat season on the 1st of December, there were fewer trappers in the field than for some years past, due to the demand for help to care for the crop. The scarcity is very noticeable on account of excessive trapping as above stated, and also as a result of the action taken by the Department in 1922 against those who were guilty of taking these animals before the opening of the season. It is noted that a much better class of pelts have been marketed than in the early winter of 1922, due no doubt to the Department's attitude with respect to unprime pelts. It is conceded by all concerned that it is in the interests of the province that muskrats should not be caught before the animals properly develop and their pelts become prime. I would strongly recommend, that as soon as conditions will permit, the trapping of muskrats before the 1st of March be prohibited. There are seasons, however, when trapping should be permitted until the middle of May, as there are frequently seasons when spring opens up much more slowly than others, but in any event, special attention should be paid to the conservation of the supply of muskrats, as these animals provide at least 50 per cent. of the output of fur from this province.

Under the regulations which apply to the trapping of muskrats, to the south of the North Saskatchewan River, 181 permits were issued, resulting in the taking of 20,848 pelts.

TAX ON FURS.

The tax imposed on the pelts of wild animals taken in the Province of Alberta, which became effective in 1920 has been continued and has resulted in the collection of $40,445.87, being $2,300.08 in excess of that collected in 1922.

LICENSES AND PERMITS.

Amendments to the Act provided that all Fur Dealers', Fur Buyers' and Exporters' Licenses issued prior to June 30th should expire on that date: the new schedule of fees provided for in the amendments would become effective on July 1st, and that a refund of 50 per cent. of the amount paid for licenses issued prior to July 1st, would be made to all persons returning their licenses before the 31st day of October. Advantage was taken of this by the great majority of licensees, with the result that a refund of $1,247.50 was made. For licenses issued to the fur trade prior to June 30th, the sum of $2,819.00 was collected, while those licenses issued to the trade after July 30th, the sum of $6,110.00 was collected. This with Trappers' Licenses and other license fees provided for by the amendments of 1923, resulted in offsetting the decrease in the sale of hunting licenses, both resident Bird Game and resident Big Game. The change in the opening date of the season for the shooting of ducks undoubtedly affected the sale of resident Bird Game Licenses, while the lack of snow during the big game season seriously affected the sale of Big Game Licenses. The fact of our not having as many officers in the field as in previous years, no doubt also had its effect.

TOTAL REVENUE FROM GAME, 1915-1923, INCLUSIVE.

Year	Revenue	Expenditure	Surplus	Deficit
1915	$37,335.49	$29,688.86	$1,643.63	
1916	23,983.15	26,819.44		$2,836.29
1917	23,866.07	29,606.51		5,740.44
1918	27,370.70	24,644.62	2,726.08	
1919	40,185.41	26,685.21	13,500.20	
1920	47,832.46	30,430.11	17,402.35	
1921	79,156.24	38,002.12	41,154.12	
1922	86,997.05	37,990.88	49,006.17	
1923	96,033.39	32,210.07	63,823.32	

CONVICTIONS.

Penalties imposed and collected during the year 1923 amounted to $2,946.55.

Respectfully submitted,

B. LAWTON,

Game Commissioner.

PRAIRIE FIRES REPORT, 1923

I am pleased to be able to report that the fire situation for 1923 has been somewhat better than that for 1921 or 1922. During the spring there were considerable fires burning in the soil and in the timber lands, which caused considerable destruction of the soil and timber. Fortunately, however, these fires were not numerous and it is hoped that any ground fires which are now burning will be extinguished before spring. It is important that an educative campaign should be instituted for the purpose of acquainting the public in general as to the necessity of taking every precaution to prevent the spread of fire, and as far as possible to avoid the kindling of fires to clear land or burn brush when the condition of the soil or inflammable matter in brush or timbered lands is unusually inflammable. This is usually in the late spring or early fall, and fires kindled at such times, if not in accordance with the requirements of The Prairie Fires Act, are liable to spread and cause loss of life and property. The indiscriminate use of fire in the clearing of land has undoubtedly done more damage than good. The losses to settlers in past years, loss of life, to say nothing of the destruction of the fertility of the soil, if a valuation could be placed thereon, would undoubtedly exceed any benefits derived from the use of fire. Special attention should be paid to informing the new settlers of foreign birth, as to the requirements of The Prairie Fires Act and the importance of taking every precaution to prevent the spread of fires, which have been legally kindled. If this is not done, our natural resources in timber and game are bound to suffer.

The convictions reported and the total penalties imposed for the years 1915 to 1923 are as follows:

Year	No. of Convictions Reported	Total	Average Fine.
1915	39	$ 681.16	$17.47
1916	113	2121.19	18.77
1917	35	888.00	25.37
1918	40	946.90	23.67
1919	35	958.50	24.55
1920	11	224.60	20.41
1921		445.25	.....
1922	44	750.00	17.04
1923		541.70	

INSPECTION OF RAILWAY FIREGUARDS.

The usual inspection of railway fireguards was continued for 1923 under the authority of the Board of Railway Commissioners, with the result that railways are, as in previous years taking precautions, to prevent the spread of fire from their right of way.

Respectfully submitted,

B. LAWTON,

Chief Fire Inspector.

Report of the Director of Women's Extension Service

H. A. CRAIG,
Deputy Minister of Agriculture.

SIR,—

I have the honour to submit herewith a Report of the Women's Extension Service Branch for the year 1923.

Women's Extension Service work has followed very similar lines to those of former years. Women's organizations throughout the Province have taken advantage of the service given through this Branch and excellent adult educational work has been accomplished.

In 1923 lectures, demonstration-lectures and short courses were given to Women's Institutes, Women's Institute Girls' Clubs, United Farm Women's Associations of Alberta and a few community clubs. The subjects dealt with were: various aspects of the food problem, sewing, millinery, different branches of child welfare, home nursing and treatment in emergency.

DEMONSTRATION AND LECTURE WORK

The arrangements made for carrying on the work are as follows; The Department of Agriculture provides the lecturer or demonstrator, paying her travelling expenses and sustenance allowance. The local organizations undertake to advertise the lecture, demonstration-lecture or short course. They provide the place of meeting and some of the equipment, where equipment is required.

Extension work was carried on during every month of the year, the greater part being done during the summer months.

No. of Foods and Cookery Short Courses	2
No. of Demonstration-lectures given	5
Total attendance at meetings	95
Average attendance	19
No. of Sewing Short Courses	83
No. of Demonstration-lectures given	350
Total attendance at meetings	6437
Average attendance	18
Total attendance at all Short Courses	6532
No. of Single Demonstration-lectures given	186
Total attendance at Demonstration-lectures	3834
No. of Lectures given	48
Total attendance at Lectures	866
Average attendance at Lectures and Demonstrations	20
Total attendance at Short Courses, Lectures and Demonstrations	11,232
No. of Places Visited	319
No. of Meetings Held	589
No. Constituency Conferences visited	34
Total attendance at Constituency Conferences	2160
No. District Conferences held	1

Sewing courses have been held for three and five days. The ten-day courses have been discontinued as it was found that women could not leave their homes every day for such a long period of time. Single day sewing demonstration-lectures were given and were found to be very helpful.

Millinery courses were held for three days. These were thoroughly enjoyed by the women and girls. Single day demonstration-lectures were given on different branches of this subject. The demonstration-lecture on millinery renovation was of great value, as it included so many valuable hints and dealt with the treatment of a large variety of materials.

Co-operation with the Public Health Department has been maintained. Joint work was put on in the Southern part of the Province during July. Clinics were held in the mornings and lectures in the afternoon. One lecture on "The Diet of Children of Pre-School Age" was given by a Public Health nurse and a lecture on "The Relationship of a Well-Balanced Diet on Dentation" was given by the Director of the Women's Extension Service.

Educational work of this kind is of great value to many homes in the Province, as it gives our women an opportunity of studying better methods of carrying on their work. Directly and indirectly it stimulates interest in domestic subjects, which is a very important point. If the service has done anything to lighten the domestic burden and to break the monotony which so often kills any incentive to fresh interest, the Women's Extension Service has accomplished an important piece of work.

For some time it has been felt that the work of this Branch might be carried on more successfully if certain changes were made. It has become evident that a better system of work could be organized by consulting organizations as to the subject matter they would like presented and the time of year at which they could do the best work in their district. To help in this matter a questionnaire was prepared, in which we asked organizations for returns on subject, and time of year for lectures, demonstration-lecture or short course.

The returns sent in reply to this questionnaire have brought out the fact, that the work should be continuous throughout the year. All subjects submitted to choose from have been asked for by some organization. It is hoped that as a result of the experiment we may be able to make the service more valuable to our people.

All sound and lasting educational work is of slow growth. It is not possible to tabulate results in figures and say that certain things have been done in a specific district and a given time, therefore these people are now efficient on a certain point or subject. We only get a glimpse here and there of some of the things that are accomplished—the binding up of community interests, the improvement in methods used, the fact that once a person has been interested in working on a subject it is always easier to make

the effort a second time. Quotations from letters received from various organizations will show to some extent how much the work is appreciated.

From a Community Club: "I want to tell you how much everyone enjoyed the lectures. It was something so new to many of our people here and the lecturer made everything so plain and simple for us, that I'm sure we all got a great deal of help from the lectures."

From a U.F.W.A.:—"During August we had the sewing demonstrator with us. The pleasure and profit derived from her five-day course exceeded all expectations. The large attendance and good interest and attention must have been gratifying to the demonstrator. We were all busy country women, many with babies and small children but we contrived to leave our homes for seven hours or more a day for five days, with some walking a distance of four miles and many riding horseback or driving distances of six and seven miles to get the course. Nothing could exceed the interest and general feeling of good comradeship engendered by our capacity-filled hall of women busily sewing and receiving expert instruction. Our course was not exceptional, I know, as neighboring clubs speak as enthusiastically of their course."

From a Women's Institute:—"I do wish I could express to you the good we isolated districts get out of these demonstrations, but mere words cannot begin to express the help and appreciation that is derived from the demonstrator's personality alone. Some of us have been in here from six to ten years, without a breath of civilization. We all look forward to the one bright spot in the year, when we have our demonstrator. All the girls have been so kind, good and helpful."

One of our demonstrators reported verbally on the following case: One girl living about thirty-five miles from the railway had been wanting a silk dress, so that she would have something nice to wear at dances and parties. Naturally she wanted to look as well as possible. Ready money was conspicuous by its absence and she spent many hours planning ways and means. At last she decided that she had better take charge of the milking and the milk. She got up at 5 a.m. in order to milk the cows at 5.30. She sold all the cream possible and saved the money she received for it. Then when she had enough money she bought the silk (not a very good quality of silk—but silk) and still the question had to be faced of making the dress, as she was afraid to cut the material herself. She then heard that a demonstration in dressmaking was going to be held in her district and she knew that her difficulties were solved. The demonstrator showed the girl how to cut a dress from her material and helped her to make it. This year the same demonstrator was back in that district and this girl spoke to her over the telephone and told her that she had enjoyed her parties so much and had worn her silk dress to all of them. The girl could not attend the classes this year because the river was not frozen and the ferry had been removed some weeks earlier, and the ford was too dangerous to cross. That girl will never feel helpless again in the same way, having once with assistance made a dress herself.

LOAN COLLECTION AND TRAVELLING LIBRARIES

The Women's Extension Service loan collection, which is composed of reference books, bulletins, pamphlets and clippings from magazines and newspapers, covers a vast range of subjects. This material is not only available for women and their organiza-

tions but for anyone resident in the Province of Alberta. This year, by special request, material was loaned in British Columbia and Ontario.

The Women's Extension Service endeavors to keep in touch with all available sources of information. We are on the mailing list of many of the Universities of Canada and the United States. In this way we receive the most recent and authoritative information on rural community interests, educational topics, social questions of the day and home economic problems.

During the year 1923, 2,498 reference books and clippings were sent out from the loan collection. Ninety-one women's organizations received travelling libraries during the year.

WOMEN'S INSTITUTES

From Women's Institute reports sent in by Institutes in 1922 we have prepared the following returns:

There are 265 Institutes in the Province, 246 of these have a membership of 7,010, giving an approximate membership of 7,420 for the 265 Institutes.

The 246 Institutes have raised $63,463.83. This would give an approximate return of $68,370.00 for the 265 Institutes. Fourteen new Institutes have been organized and eighteen Institutes have disorganized during 1923.

WOMEN'S INSTITUTE GIRLS' CLUBS

From the returns sent in by the Girls' Clubs we find that there are thirty-six clubs, eighteen of these having a membership of 297, giving the 36 clubs an approximate membership of 594. The eighteen clubs give a total financial return of $1,843.96, giving for the thirty-six clubs an average return of $3.687.92.

In conclusion, I have much pleasure in acknowledging, with thanks, the efficient services rendered by those associated with me in the work of this Branch.

Respectfully submitted,

JESSIE C. MACMILLAN,

Director.

Report of the Publicity Commissioner

H. A. CRAIG,
Deputy Minister of Agriculture.

SIR,—

I have the honour to present herewith the Report of the Publicity Branch for the year 1923.

During the past year, four distinct lines of activity have fallen within the jurisdiction of this Branch, namely: The dissemination of general publicity and information concerning the Province, the administration of the motion picture bureau, the collection, preparation and placing of agricultural exhibits, and, the compilation of various statistics, including the publication of the periodical crop report during the crop season.

Summarizing the year's work of the Branch under these four general headings, I would report as follows:

GENERAL PUBLICITY

A great deal of general publicity of various kinds has been done during the year.

The publication of the weekly news letter, instituted two years ago, was continued on somewhat broader lines, making possible the use of much of the material in publications abroad. The total number of copies of the news letter issued during the year was approximately 13,000, the average circulation each week being 265 at a cost of approximately $9 a week.

A great deal of information has been furnished to outside enquirers, and articles written for several periodicals aside from the weekly news letter. A considerable amount of publicity material was prepared and circulated to a large number of publications in the East, in connection with the campaign to establish Alberta coal in the Ontario market.

The distribution of literature was carried out on an extensive scale. There has been a greatly increased demand from outside sources for literature relative to the Province, indicating a strong revival of interest. Literature was distributed as follows: Large Alberta book 16,000, small Alberta book 20,000, small Alberta "facts" card 5,000. In addition to this the Branch issued during the year a new map of Alberta, published by the Mundy Map Co., and containing a great deal of information with respect to the character of the land, natural resources, etc. A total of 8,000 of a small edition of this map was circulated during the year, and the Branch received many congratulatory comments on the map. In addition to this, a large wall size of the map was issued to several of the Canadian Government Immigration Offices in the Middle and Western States, which are found to be very useful by the immigration agents in the pursuit of their work.

During the year the Branch encountered a heavy demand for photographs of various kinds, chiefly depicting the agricultural and mining activities of the Province, and a large number of these were distributed to publications, news agencies and photograph syndicates, which were able to put them to effective use.

The Commissioner received calls from a large number of visitors during the summer months, chiefly representatives of periodicals who were visiting the Province for the purpose of collecting information for articles.

Some attention was paid during the year to the matter of encouraging tourist traffic to the Province. Prior to the opening of the new Banff-Windermere road, which opened a new highway for motor tourists into Alberta from the Western States, your Commissioner, in company with an official of the Calgary Board of Trade, and on invitation of that and other organizations, conducted a tour through the Western and Pacific States with the chief object of attracting attention to the new route into the Province. The retiring President of the Calgary Board of Trade, in his recent annual address, referred to this tour as one of the most far-reaching activities of his organization during the year. The tourist traffic into the Province displayed a very large increase over previous years. In this connection this Branch also supplied the auto camps in the Province with a large amount of literature, which those in charge of the camps readily undertook to distribute to visiting tourists.

The large number of enquiries received during the year indicates the increased interest shown in the Province by prospective settlers, and the prospect is for a considerable influx of settlers during the coming year.

MOTION PICTURE BUREAU

The work of this bureau has of necessity thus far been confined chiefly to producing certain motion pictures for use in agricultural extension work by the Department among the farmers of the Province. During the past year two of the district agriculturists were furnished with motion picture projectors for use in their work. Three others were already in the field, two being located at the Schools of Agriculture at Claresholm and Olds, and the other being in possession of another of the agricultural agents.

During the year a film on Agricultural Schools, one on "Helpful Hints for Women" for use of the Women's Extension Branch, one on swine clubs and swine breeding, were practically completed, as well as work done on other films of a similar nature. A picture is now in preparation depicting the co-operative marketing services of the Department. In addition to this a small amount of publicity film was prepared. It is planned to furnish a certain amount of publicity film, depicting agricultural activities, as well as a film on coal mining in the Province, which is now completed, for use by the Canadian National Railway and other mediums in the British Empire Exposition in London. A copy of the coal mining picture is also to be used in connection with the campaign in Ontario.

AGRICULTURAL EXHIBITS

During the crop season, a large amount of excellent material for agricultural displays was collected by Mr. Frank Peterson, the large and heavy crops of all grains and grasses during the past year making it possible to obtain many fine samples.

Much of this material was supplied for the exhibit on seed grain which was placed by the Department at the International Livestock Show at Chicago in December. A further quantity has already been supplied to the Dominion Government for the composite Canadian exhibit to be placed at the British Empire Exposition. Material has also been supplied for the Alberta seed grain exhibit which is to be placed at the British Exposition by the Dominion Seed Branch.

Special literature will be prepared for use at the British Exposition.

CROP STATISTICS

Under the supervision of Mr. Forster, the Assistant Publicity Commissioner, a great deal of valuable information has been prepared during the past year in statistical form, and a basis established for statistics of various kinds which it will be possible to enlarge from year to year.

THE 1923 CROP

The season of 1923 is to be recorded as the year of Alberta's greatest crop production. Though the crop season opened with the soil in very dry condition, the growing period was attended by heavy and frequent rains, and the resultant crop of all grains was uniformly heavy over the entire province, save in the south-eastern crop district, where the precipitation was not so heavy, and the yield was consequently not so great.

Seeding commenced during the second week in April and was general by the first week of May. The dry condition of the soil over the entire Province tended to restrict the acreage of the season and the indications at the opening of the season were that the total acreage in all grains would not exceed that of the previous year.

The last week in May witnessed considerable precipitation, however, especially in the South-Western part of the Province, and the acreage being seeded was increased. A considerable area in the South was also given over to fodder crops, particularly in the irrigated districts. During the first two weeks in June ,the entire crop situation in the Province became highly encouraging as a result of heavy rains which fell in nearly every district. These satisfactory conditions continued to prevail throughout the growing season and well into the harvest season, with the result that unusually heavy crops of all grains were produced over almost the entire Province.

Owing to the active campaign against grasshoppers carried on in 1922, and the early part of 1923, this pest did not constitute a

great menace at any time during the crop-growing season, although it was found necessary to maintain the effective organization in certain districts during most of the season.

Heavy hail storms were frequent during the season and the hail losses generally over the Province were heavier than usual.

In certain districts along the eastern border of the province, at the opening of the harvest season, a fungous growth made itself manifest on the grain crops, known technically as *helmenthosporium*, which had the effect of reducing yields somewhat in these districts.

Frost occurred in several districts of the Province during the second week in August, but the damage to grain at the time was slight. Late grains in the more Northern districts were damaged by frosts later on in the season, which had the effect of reducing the grade.

The total acreage in all crops in the Province was 11,331,925 acres, an increase of approximately 10 per cent. over the acreage of the previous season.

The acreage in wheat totalled 5,793,753 acres, and the average yield over the Province was placed at 28 bushels, giving a total yield of 167,265,084 bushels.

Attached to this report are tables setting forth the comparative areas, yield and value of field and fodder crops for the years 1922 and 1923, comparative averages of all grains for the past ten years, temperatures and precipitation figures for various points in the Province for the season of 1923, and other tables containing statistical information.

All of which is respectfully submitted,

COLIN G. GROFF,
Publicity Commissioner.

ALBERTA CROP DISTRICTS

No. 1 [illegible] DISTRICT—Comprising Provincial Constituencies of Medicine Hat, Taber, Warner, Redcliff, Bow Valley, Grand [illegible]

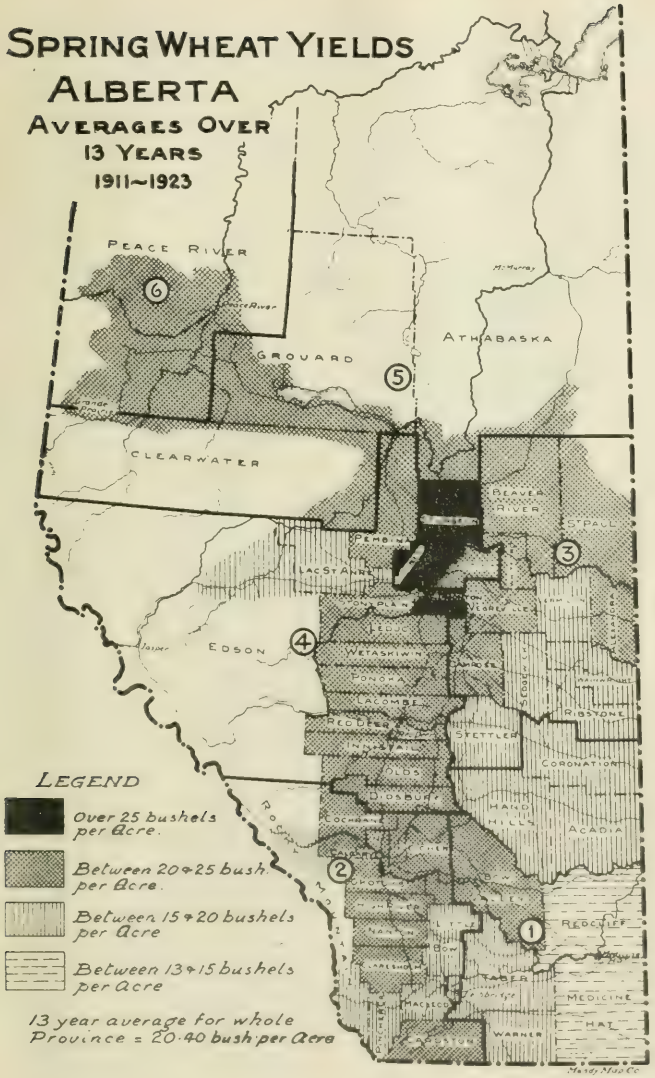
No. 2 [illegible] Comprising Provincial Constituencies of Cardston, Pincher Creek, Macleod, [illegible] Nanton, Okotoks, High River, Rocky Mountain, Calgary, Gleichen and Cochrane.

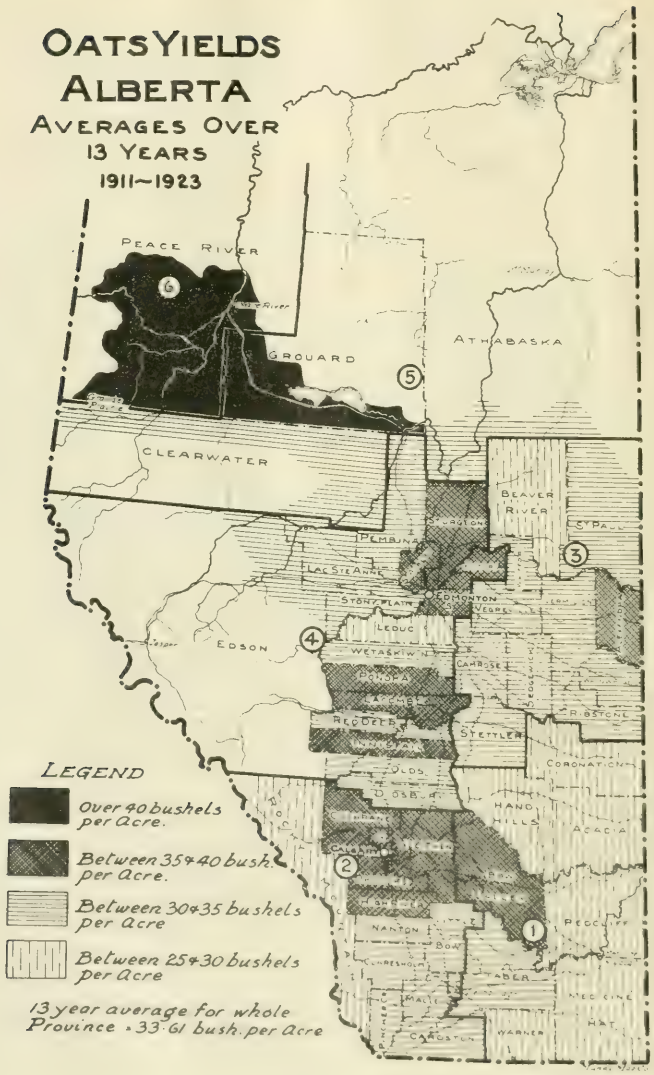
No. 3 [illegible] Provincial Constituencies of Stettler Camrose, Sedgewick, Ribstone, Wainwright, Alexandra, Vermilion, Vegreville, Whitford, Beaver River, and St. Paul.

No. 4 [illegible] of Didsbury, Olds [illegible] Red Deer, Lacombe, Ponoka, Wetaskiwin, Leduc, Stony Plain, Lac Ste Anne, Edmonton, Victoria, Sturgeon, Pembina, St. Albert, Redcliff, [illegible]

No. 5—NORTHERN DISTRICT—Comprising Provincial Constituencies of Athabasca, Grouard and Clearwater.

No. 6 Peace River District [illegible] Provincial Constituency of Peace River.


SPRING WHEAT YIELDS
ALBERTA
AVERAGES OVER
13 YEARS
1911~1923
PEACE RIVER
GROUARD
ATHABASKA
CLEARWATER
BEAVER RIVER
ST PAUL
LAC STE ANNE
EDSON
WETASKIWIN
CAMROSE
STETTLER
CORONATION
HANDHILLS
ACADIA
REDCLIFF
MEDICINE HAT
WARNER
LEGEND
Over 25 bushels per Acre.
Between 20 & 25 bush. per Acre.
Between 15 & 20 bushels per Acre
Between 13 & 15 bushels per Acre
13 year average for whole Province = 20·40 bush per Acre


OATS YIELDS
ALBERTA
AVERAGES OVER
13 YEARS
1911–1923
PEACE RIVER
GROUARD
ATHABASKA
CLEARWATER
BEAVER RIVER
EDSON
EDMONTON
LEDUC
STETTLER
CORONATION
HAND HILLS
ACADIA
PEDIGREE
LEGEND
Over 40 bushels per Acre.
Between 35 & 40 bush. per Acre.
Between 30 & 35 bushels per Acre
Between 25 & 30 bushels per Acre
13 year average for whole Province = 33·61 bush. per Acre

GRAIN YIELDS BY CROP DISTRICTS, ALBERTA, 1923

Acreage Figures from Dominion Bureau of Statistics. Average yields per acre from Threshers' Returns, based on reports from 2,934 threshers, out of a total of 5,055 threshers licensed.

FALL WHEAT

Crop District	Total Estimated Acreage.	Average Yield by Threshers' Returns.	Total Yield.
District No. 1	34,544	21.01 bush.	725,769
District No. 2	20,727	30.69 bush.	636,111
District No. 3	14,761	29.55 bush.	436,187
District No. 4	11,841	31.73 bush.	375,714
District No. 5	492	.....	.....
District No. 6	1,895	28.73 bush.	54,443
Community Farms	1,900	25.24 bush.	47,956
Indian Reserves	.....	.....	.....
Total	86,160	.....	2,276,182

SPRING WHEAT

District No. 1	2,179,318	21.51 bush.	46,877,130
District No. 2	1,305,739	31.40 bush.	41,000,204
District No. 3	1,298,549	26.39 bush.	34,268,708
District No. 4	946,760	33.06 bush.	31,299,885
District No. 5	16,969	28.95 bush.	491,252
District No. 6	124,866	25.80 bush.	3,221,542
Community Farms	1,000	26.43 bush.	26,430
Indian Reserves	14,392	26.43 bush.	380,380
Total	5,887,593	.....	157,565,531

OATS

District No. 1	313,568	39.70 bush.	12,448,649
District No. 2	342,342	50.87 bush.	17,414,937
District No. 3	488,175	47.78 bush.	23,325,001
District No. 4	1,070,144	50.47 bush.	54,010,167
District No. 5	19,429	53.68 bush.	1,042,948
District No. 6	57,628	55.76 bush.	3,213,337
Community Farms	.....	.....	.....
Indian Reserves	8,560	48.29 bush.	413,362
Total	2,299,546	.....	111,868,401

BARLEY

District No. 1	31,925	30.12 bush.	961,581
District No. 2	62,074	34.69 bush.	2,153,347
District No. 3	80,490	33.12 bush.	2,665,828
District No. 4	198,240	37.37 bush.	7,408,228
District No. 5	2,828	33.95 bush.	96,010
District No. 6	7,468	36.38 bush.	271,685
Indian Reserves	833	35.52 bush.	29,588
Total	383,858	.....	13,586,267

RYE

District No. 1	283,713	10.36 bush.	2,939,266
District No. 2	34,696	20.19 bush.	700,512
District No. 3	109,396	18.54 bush.	2,028,201
District No. 4	57,108	24.12 bush.	1,377,444
District No. 5	336	24.72 bush.	8,305
District No. 6	4,562	14.49 bush.	65,234
Indian Reserves	44	13.74 bush.	604
Total	489,795	.....	7,119,566

FLAX

District No. 1	9,282	9.81 bush.	91,056
District No. 2	2,672	12.04 bush.	32,170
District No. 3	1,576	13.03 bush.	20,457
District No. 4	1,187	9.23 bush.	10,956
District No. 5	14	12.00 bush.	168
District No. 6	275	14.49 bush.	3,984
Total	15,000	.....	158,791

ESTIMATED YIELD AND VALUE OF AGRICULTURAL PRODUCTS, AND LIVE STOCK SLAUGHTERED AND SOLD—1923—ALBERTA

(Comparison with 1922)

CROP.	ACREAGE		AVERAGE YIELD PER ACRE		YIELD		PRICE		VALUE.	
	1923	1922	1923	1922	1923	1922	1923	1922	1923	1922
			Bush.	Bush.	Bush.	Bush.	Bush.	Bush.		
Fall Wheat	86,160	64,554	28 00	11 60	2,412,480	784,826	$0.65	$0 74	$ 1,568,112	$ 554, 131
Spring Wheat	5,887,593	5,701,041	28 00	11 40	164,852,604	64,991,867	.65	77	107,154,192	50,043,737
ALL WHEAT	5,973,753	5,765,595			167,265,084	65,776,693			$108,722,304	$ 50,597,868
Oats	2,299,546	1,614,500	50 00	21 50	114,977,300	34,711,750	.28	45	32,193,644	15,620,287
Barley	383,858	378,053	38 50	14 90	14,778,533	5,632,989	.38	.45	5,615,842	2,534,845
Fall Rye	303,765	422,500	20 25	10 30	6,151,241	4,351,750	43	60	2,645,033	2,611,050
Spring Rye	92,993		15 75		1,464,789		43		629,859	
Flax	15,000	22,186	10 40	4 45	156,000	98,727	1 63	1 56	254,280	154,014
Peas	3,306	1,590	22 00	11 50	72,732	18,285	1 41	2 00	102,552	36,750
Beans	559	100	11 00	14 25	6,149	1,425	2 00	2 00	12,298	2,850
Mixed Grains	11,228	14,314	41 75	15 00	468,769	214,710	.28	.40	131,255	85,884
					305,340,597	110,806,329			$150,307,067	$71,643,548
			CWT.	BUSH.	CWT.	BUSH.	CWT.	BUSH.		
Potatoes	39,960	12,502	119 00	109 50	4,755,240	4,653,969	60	50	2,853,144	2,326,984
Turnips, Roots, etc	9,245	9,289	114 00	173 50	1,053,930	1,611,641	1 00	.30	1,053,930	483,492
			TONS	TONS	TONS	TONS	TONS	TONS		
Hay and Clover	245,178	291,723	1 65	0 80	404,543	234,400	6 00	16.00	2,427,258	3,750,400
Grain Hay	1,861,033	1,401,070	2 25	1 25	4,187,324	1,751,300	3.00	12 00	12,561,972	21,015,960
Alfalfa	38,548	26,539	2 70	2 20	104,079	58,400	10 00	15 00	1,040,790	876,000
Fodder Corn	53,953	15,648	4 65	5 25	250,881	82,000	3 00	5 00	752,643	411,000

Alfalfa Seed					Lbs. 100,000	Lbs. 100,000	Lb. 30	Lb. .35	30,000	35,000
	11,331,925	10,005,609							$171,026,804	$100,542,384
Animals slaughtered and sold									$ 17,146,000	$ 13,148,315
Dairy Products									22,975,000	22,950,000
Wool									326,500	348,600
Game, Furs, etc.									2,000,000	2,000,000
Poultry and Poultry Products									8,300,000	9,000,000
Horticultural Products and Garden Stuff									2,000,000	2,000,000
Hides, Pelts, etc.									400,000	500,000
									$223,814,304	$150,488,699

LIVE STOCK, ALBERTA, (Figures as at June 15, 1923)

	Number		Value Per Head		Value	
	1923	1922	1923	1922	1923	1922
Horses	844,519	863,316	$40 00	$40 00	$ 33,780,760	$ 34,532,640
Milch Cows	411,446	392,037	50 00	50 00	20,572,300	19,601,850
Other Cattle	1,117,751	1,243,005	30 00	30 00	33,532,530	37,290,150
Sheep	335,243	410,366	8 00	8 00	2,681,944	3,282,928
Swine	706,753	623,188	16 00	18 00	11,308,048	11,217,384
Poultry: Turkeys	580,510	337,336	2 50	3 00	1,451,275	1,012,008
Geese	93,650	89,724	2 00	2 50	187,300	224,310
Ducks	98,457	86,536	1 25	1 25	123,071	108,170
Other Fowl	5,860,028	5,421,699	1 00	1 00	5,860,028	5,421,699
					$109,497,256	$112,691,139

SUMMARY OF THE ACREAGE AND YIELDS OF THE LEADING GRAINS DURING THE LAST TEN YEARS
1914 - 1923

	Year	Crop Area	Total Yield in Bushels.	Yield per acre Bush.	Average Yield Bush.
Spring Wheat	1923	5,887,593	164,852,604	28.00	18.25
	1922	5,701,041	64,991,867	11.40	
	1921	4,564,290	51,576,000	11.30	
	1920	4,035,003	82,712,738	20.50	
	1919	2,827,935	33,935,224	12.00	
	1918	3,018,371	23,090,544	7.65	
	1917	2,622,853	51,805,839	19.00	
	1916	1,549,075	41,163,471	24.18	
	1915	1,637,122	58,830,704	33.29	
	1914	989,561	15,102,083	15.26	
Winter Wheat	1923	86,160	2,412,480	28.00	20.72
	1922	64,554	748,826	11.60	
	1921	85,114	1,468,000	17.25	
	1920	37,990	712,777	18.76	
	1919	38,475	639,450	16.62	
	1918	44,065	660,975	15.00	
	1917	51,704	1,023,173	20.00	
	1916	18,663	447,475	23.89	
	1915	31,954	1,257,985	39.37	
	1914	49,930	837,204	16.77	
Oats	1923	2,299,546	114,977,300	50.00	35.34
	1922	1,614,500	34,711,750	21.50	
	1921	2,139,743	64,192,000	30.00	
	1920	3,089,757	115,079,241	37.25	
	1919	2,329,025	65,725,085	28.22	
	1918	2,651,548	60,322,717	22.75	
	1917	2,667,291	85,726,170	32.14	
	1916	1,394,927	60,798,239	43.78	
	1915	1,570,596	90,582,694	57.66	
	1914	1,147,382	34,597,117	30.15	
Barley	1923	383,858	14,778,533	38.50	25.24
	1922	378,053	5,632,989	14.90	
	1921	523,891	11,657,000	22.25	
	1920	480,666	12,740,071	26.50	
	1919	412,212	10,562,406	25.50	
	1918	470,073	7,756,204	16.50	
	1917	462,726	9,984,789	22.56	
	1916	297,967	8,477,232	28.64	
	1915	374,062	12,761,187	34.11	
	1914	340,992	7,847,640	23.01	
Rye	1923	396,758	7,621,674	19.19	18.80
	1922	422,500	4,351,750	10.30	
	1921	138,836	1,999,000	14.40	
	1920	160,959	3,419,969	21.25	
	1919	83,032	1,173,256	14.13	
	1918	47,877	825,875	17.50	
	1917	29,997	764,828	26.00	
	1916	10,134	212,503	23.25	
	1915	12,067	291,399	24.14	
	1914	14,623	261,843	17.90	

SUMMARY OF THE ACREAGE AND YIELDS OF THE LEADING GRAINS DURING THE LAST TEN YEARS

1914 - 1923

(Continued)

	Year	Crop Area in Acres	Total Yield in Bushels	Yield per acre Bush.	Average Yield Bush.
	1923	15,000	156,000	10.40	
	1922	22,186	98,727	4.45	
	1921	28,434	171,000	6.00	
	1920	103,689	725,910	7.00	
	1919	47,112	221,897	4.71	
Flax	1918	95,920	479,600	5.00	7.41
	1917	139,527	777,690	5.60	
	1916	43,361	574,700	12.43	
	1915	41,243	569,762	13.57	
	1914	41,656	207,115	4.97	
	1923	11,228	468,769	41.75	
	1922	14,314	214,710	15.00	
Mixed Grains	1921	13,013	278,780	21.50	29 05
	1920	8,398	258,238	30.75	
	1919	26,000	942,500	36.25	
			Tons.	Tons.	Tons.
	1923	245,178	401,600	1.65	
	1922	291,723	234,400	0.80	
Hay	1921	454,883	454,883	1.00	1.17
	1920	433,296	476,626	1.10	
	1919	403,333	524,462	1.30	

Table Showing Average Yields of Grain per Acre, in the Various Constituencies, Province of Alberta, for the Year 1923.

Also Showing the Average Yield per Acre for a Period Covering Thirteen Years—1911 to 1923

1923 Figures compiled from 2,934 threshers' returns, received to February 15, 1924, out of 5,055 threshers registered. Yields shown in bushels per acre.

Constituency	Crop Dist.	Spring Wheat		Winter Wheat		Oats		Barley		Rye		Flax	
		1923	13 Years 1911–1923	1923	13 Years 1911 1923	1923	13 Years 1911 1923	1923	13 Years 1911–1923	1923	13 Years 1911–1923	1923	13 Yrs. 1911–1923
Medicine Hat	1	14 28	13 25	15 17	16 97	25 05	25 22	21 30	18 30	5 12	14 48	7 04	5 92
*Warner	1	19 38	15 63	11 07	15 47	32 14	26 91	20 94	18 79	8 12	12 66	10 50	7 34
*Taber	1	18 71	16 58	25 68	19 66	33 18	30 00	27 61	22 67	7 83	19 59	7 88	7 77
*Redcliff	1	14 80	14 22	10 09	17 17	25 48	24 87	17 24	18 76	10 03	15 19	9 87	7 15
*Bow Valley	1	28 51	20 13	31 10	17 81	45 72	41 15	37 97	21 81	16 48	18 88	10 39	7 86
*Hand Hills	1	26 52	16 65	24 25	19 33	49 13	29 19	34 04	22 89	17 57	15 39	11 71	7 37
*Acadia	1	20 83	16 06	17 64	16 84	37 82	25 96	26 89	18 62	11 67	12 73	9 69	6 74
*Coronation	1	24 00	16 21	26 50	16 76	41 02	29 18	31 06	19 91	15 59	19 91	12 75	7 03
District Average		21 51		21 01		39 70		30 12		10 36		9 81	
Cardston	2	28 58	20 16	15 94	20 23	43 07	34 90	30 97	23 62	22 08	21 38	7 20	8 99
Pincher Creek	2	27 32	17 66	32 75	22 69	42 68	31 07	30 31	22 54	20 80	16 08	18 10	8 84
Macleod	2	20 12	16 39		21 49	29 26	29 72	22 42	22 34	18 40	16 56	6 66	11 65
Lethbridge	2	22 78	17 24	10 25	10 45	32 55	25 38	29 09	22 30	12 36	18 43	14 50	10 98
*Little Bow	2	33 48	19 39		19 04	47 18	34 31	26 73	22 54	16 65	17 14	12 37	8 61
Claresholm	2	29 09	20 98		21 76	46 36	31 83	29 79	23 35	24 65	18 72	19 60	11 48
Nanton	2	30 44	21 32		20 89	42 78	34 93	28 40	21 12	21 66	21 01	7 17	8 89
High River	2	33 04	22 83		23 29	51 56	38 40	39 28	25 27	26 01	20 81		9 18
Okotoks	2	28 75	22 93		21 67	47 09	37 18	33 23	26 02	21 40	21 08		8 71
*Rocky Mountain	2	22 75	17 38	23 48	18 51	37 82	27 83	30 33	24 72	20 08	17 27		6 06
*Calgary	2	35 41	21 88		23 98	60 35	36 67	35 97	23 84	30 46	20 75		10 55
Gleichen	2	33 53	22 08	36 37	21 29	55 95	38 07	39 03	24 31	20 07	19 05	11 73	9 26
Cochrane	2	36 08	21 13		16 97	50 85	36 27	34 78	23 30	21 48	19 84		11 79
District Average		31 10		30 69		50 87		34 69		20 19		12 04	

Stettler	3	28 97	19.68	29.43	18.80	53 58	32.93	37.76	23.11	37.41	18 05	15.30	7 92
Camrose	3	33 40	21.72	31 34	22 19	50 19	35.77	38 57	25 25	25 81	19 16	19.25	8 93
Sedgewick	3	27 51	19.65	29.06	19 58	52.54	35 52	36 73	23 51	22 14	21.12	10.57	9 24
*Ribstone	3	21 56	17.27	.....	14.42	46 31	30 28	29.35	18.53	15.03	14 84	11.64	7 90
* Wainwright	3	23 75	18.11	45 71	21 56	48 83	32 46	33 12	21 15	17 56	15 06	8 84	7 57
Alexandra	3	24 09	20.40	....	18.54	42 04	36.55	27 86	24 09	19 68	16.80	15 11	10 10
Vermilion	3	19 21	17 52	....	20 40	43 85	33 83	31 66	22 54	20 44	17 38	5 63	9.16
Vegreville	3	28 55	20.74	25 94	21 60	50 89	36 23	33 58	24 89	25 20	16 83	14 60	13.25
*Whitford	3	25 66	22.62	....	18 47	37 01	31 53	27 85	17 35	15 05	17 35	15 00	11 97
*Beaver River	3	26 07	20.80	26 69	17 19	38 68	29 21	30 29	22 89	13 32	17.64	18 50	5 86
*St. Paul	3	26 10	20.19	.....	15 38	38 92	31 65	29 05	21 92	18 63	17.56	.....	6 63
District Average		26 39	....	29 55	....	47 78	.....	33 12	....	18.54	....	13 03	.....
Didsbury	4	33 66	22.08	30.08	20 74	51 61	34 72	35 58	24 36	23 93	20 30	11 12	9 67
Olds	4	32 45	21.24	26.47	18 84	50 65	34.76	36 70	26 23	21 15	19.56	7 99	9 70
Innistail	4	32 82	22.63	31.80	19 27	49 79	37.79	37 37	26 89	25 51	22 54	11 43	7.78
Red Deer	4	32 84	23.64	....	20 78	48 53	34 56	32 97	28 86	18 56	19 19	16 66	12 49
Lacombe	4	29 94	22.48	28 65	22 63	50 09	36 00	36 06	26 87	26 79	26 87	12 50	10 81
Ponoka	4	31 63	21.47	19.45	18 07	45 33	35 49	31.07	27 74	22 37	18 38	....	10 20
Wetaskiwin	4	34 97	23.72	41.89	21 05	48 96	32 76	38 28	34 03	24.24	19.64	....	6 87
Leduc	4	34 06	22.38	....	19 53	44 25	29 13	34 60	25 33	26 97	17 38	16 00	13 38
S. Edmonton	4	34 18	25.55	....	22 53	66 16	39 20	36 67	29 23	22 41	19 33	....	12 49
Victoria	4	34 55	23.49	....	21 28	52 44	36 52	36 77	26 94	26 67	17 36	6 25	11 14
Sturgeon	4	35 79	26.22	30 07	20 04	52 84	38.69	42 19	28 67	19 66	17 41	15 00	11 01
St. Albert	4	41 26	26.27	43.80	25 43	59 78	35.15	40 19	29.62	22 59	19.86	....	10.15
Pembina	4	33 17	21.09	....	19 29	54 10	33 78	45 56	23 25	27 08	21 17	10 00	11 08
Lac Ste. Anne	4	24 83	19.39	....	21 86	43 52	31 69	29 05	23 73	21 57	17 72	....	10 10
Stony Plain	4	30 31	21.31	25 03	17 59	46 24	33 11	36 49	26 09	24 30	20 17	18 00	10 87
*Edson	4	19.72	18.80	....	....	41 85	30.21	18 53	20 50	....	20 50	....	12 00
District Average		33 06	....	31 73	....	50.47	.....	37 37	....	24 12	....	9 23	.....
Athabasca	5	28 71	20 35	....	24 52	47 85	33 17	30 84	25 54	23 43	15 86	15 00	8 69
*Grouard	5	30 59	21 56	....	28 74	59 65	48 12	38 19	29 67	29 48	23 26	....	9 17
*Clearwater	5	29 04	22 90	....	....	50.19	34.85	32 74	27 83	15 00	18 37	11 14	7 36
District Average		28 95	....	....	....	53.68	.....	33 95	.....	24 72	....	12 00	.....
Peace River	6	25.80	22 37	28.73	28 22	55.76	42.83	36 38	25.27	14.49	20 23	14 49	9 80

Constituencies marked * show averages over 11 years.

Grain Production in Alberta—1906 to 1923

Showing Acreage under Cultivation, Yields, and Value. Department of Agriculture, Alberta, Publicity and Statistical Branch

Year	Wheat			Oats			Barley			Rye			Flax		
	Acreage	Yield	Value	Acreage	Yield	Value	Acreage	Yield	Value	Acreage	Yield	Value	Acreage	Yield	Value
1906	223,930	5,593,269		476,511	24,037,071		108,175	3,876,468	...	7,143	169,451	... .	6,484	86,170	... . .
1907	223,930	4,194,535		476,511	9,247,914	.	108,175	. .....	. . . .	7,143	.....	.....	. .	... ..	... ..
1908	254,000	6,844,000		519,400	23,802,000	$ 6,316,000	129,800	3,881,000	$ 1,796,000	6,500	200,000	$116,000	5,920	74,000	$ 56,000
1909	484,000	9,579,000		870,000	48,376,000	9,287,000	186,000	5,999,000	2,016,000	6,800	152,000	81,000	5,813	109,000	114,000
1910	859,301	9,060,210	$ 6,254,000	783,071	16,099,323	5,152,000	121,435	2,480,165	942,000	6,672	109,000	61,000	31,070	78,480	117,000
1911	1,639,974	26,607,000	17,544,000	1,113,215	59,034,000	16,530,000	164,132	5,356,000	1,786,000	14,443	391,000	240,000	107,171	1,114,000	1,337,000
1912	1,890,000	34,303,000	18,459,000	1,461,000	65,630,000	16,731,000	187,000	6,179,000	2,039,000	15,000	377,000	211,000	132,000	1,693,000	1,557,000
1913	1,811,000	34,317,000	21,009,000	1,639,000	71,542,000	17,170,000	197,000	6,344,000	1,964,000	16,000	398,000	183,000	105,000	1,155,000	1,374,000
1914	1,751,100	28,859,000	26,103,000	1,502,000	57,026,000	13,972,000	178,000	4,806,000	2,151,000	16,400	360,800	238,000	80,000	614,000	645,000
1915	2,138,031	66,838,000	58,335,600	1,827,071	83,876,000	25,532,900	304,009	9,822,000	1,340,400	15,963	374,726	232,400	48,000	670,000	966,700
1916	2,604,913	65,088,000	86,600,000	2,194,084	102,199,000	47,011,500	336,586	9,774,000	6,939,500	17,975	440,000	418,000	95,063	1,810,500	1,389,100
1917	3,897,300	53,993,100	91,941,300	2,547,900	86,788,600	54,361,800	472,100	10,386,200	1,178,500	30,880	633,000	949,500	139,800	978,600	2,720,500
1918	3,892,389	43,551,000	48,604,000	2,651,548	60,323,000	44,036,000	470,074	7,756,000	7,523,000	47,877	826,000	1,165,000	95,920	180,000	1,498,000
1919	4,782,509	34,575,000	79,945,000	2,765,371	65,795,000	42,064,000	414,313	10,562,000	11,513,000	83,404	1,173,000	1,666,000	80,690	222,000	921,000
1920	4,054,483	84,461,000	126,861,000	3,089,700	115,091,000	41,433,000	480,699	12,739,000	7,898,000	160,960	3,420,000	4,275,000	103,700	726,000	1,329,000
1921	5,154,404	53,044,000	40,756,000	2,911,743	64,192,000	15,406,000	568,191	11,657,000	3,730,000	222,136	1,999,000	1,239,000	28,434	171,000	219,000
1922	3,265,595	65,730,693	50,597,868	1,614,580	34,711,750	15,620,287	378,053	5,632,989	2,534,845	422,500	4,351,750	2,611,050	22,186	98,747	154,014
1923	5,954,753	161,268,084	108,772,304	2,299,546	114,977,300	32,193,644	388,858	14,778,533	5,615,842	396,758	7,616,030	3,274,892	15,000	156,000	254,280

Figures compiled from Dominion Statistical Bureau Reports.

COMPARATIVE TABLE SHOWING PROVINCIAL AVERAGES OF GRAIN YIELDS IN ALBERTA, FOR VARIOUS PERIODS, FROM 1899 TO 1923

Class of Grain.	Average, 1923	Average 13-year period, 1911-1923	Average 12-year period 1899–1910	Average 26-year period 1898–1923
Spring Wheat	28 00 bush.	20.40 bush.	17 64 bush.	19 27 bush.
Winter Wheat	28 00 bush.	20 22 bush.	21 46 bush.	20.19 bush.
Oats	50 00 bush.	33 61 bush.	33 90 bush.	35 79 bush.
Barley	38 50 bush.	24 02 bush.	25 88 bush.	26 10 bush.
Rye	19 19 bush.	18 54 bush.	18 01 bush.	18 84 bush.
Flax	10 40 bush.	9 34 bush.	7 41 bush.	8 71 bush.

LIVESTOCK SHIPMENTS, ALBERTA, 1923

CONSTITUENCY	HORSES			CATTLE		
	Local	Export	Total	Local	Export	Total
Medicine Hat	105	711	816	2,172	1,691	3,863
Warner	122	42	164	1,880	303	2,183
Taber	71	226	297	2,379	208	2,587
Redcliff	302	782	1,084	1,678	3,178	4,856
Bow Valley	396	972	1,368	3,700	1,104	4,804
Hand Hills	433	864	1,297	3,745	186	3,931
Acadia	203	1,331	1,534	1,010	251	1,261
Coronation	68	270	338	2,927	1,238	4,165
Cardston	7	10	17	303	710	1,013
Pincher Creek	14	326	340	776	752	1,528
Macleod	5	83	88	155	11	166
Lethbridge	21	2	23	224	107	331
Little Bow	187	159	346	864	...	864
Claresholm	6	9	15	538	5	543
Nanton	23	....	23	1,400	134	1,534
High River	143	111	254	3,923	1,050	4,973
Okotoks	1	27	28	1,576	253	1,829
Rocky Mountain	2	2	4	34	...	34
Gleichen	215	324	539	4,023	1,979	6,002
Cochrane	162	84	246	1,836	450	2,286
Stettler	108	419	527	2,092	1,515	3,607
Camrose	133	124	257	5,742	471	6,213
Sedgewick	123	82	205	2,507	1,234	3,741
Ribstone	32	57	89	487	5,694	6,181
Wainwright	368	390	758	2,744	4,592	7,336
Alexandra	75	192	267	1,935	10,505	12,440
Vermilion	42	128	170	3,241	4,985	8,226
Vegreville	82	147	229	10,307	1,046	11,353
Whitford	.....	...	...	1,424	86	1,510
Beaver River	6	7	13	1,213	.....	1,213
Didsbury	195	645	840	6,034	882	6,916
Olds	580	308	888	2,579	1,050	3,629
Innisfail	106	48	154	2,173	446	2,619
Red Deer	189	72	261	3,199	674	3,873
Lacombe	103	145	248	2,479	1,369	3,848
Ponoka	41	10	51	2,335	1,023	3,358
Wetaskiwin	...	....	....	72	...	72
Leduc	3	16	19	132	7	139
South Edmonton	.....	...	....	498	...	498
Victoria	10	5	15	3,089	7	3,096
Sturgeon	15	...	15	2,267	60	2,327
St. Albert	6	156	162	543	48	591
Pembina	7	...	7	1,073	24	1,097
Lac Ste. Anne	...	...	...	474	...	474
Stony Plain	.....	.....	...	227	...	227
Edson	253	6	259	203	...	203
Athabasca	15	...	15	645	....	645
Grouard	21	...	21	594	...	594
Peace River	113	39	152	9,128	17	9,145

Livestock Industry in Alberta

Statistical Table covering years 1917 to 1923, showing numbers and value of different classes of Farm Stock.

Year	Number of Live Stock and Poultry in Alberta						Value per Head						Value of Live Stock						
	Horses	Milch Cows	Other Cattle	Sheep	Swine	Fowl	Horses	Milch Cows	Other Cattle	Sheep	Swine	Fowl	Horses	Milch Cows	Other Cattle	Sheep	Swine	Fowl	All Classes Live Stock
1917	718,413	325,861	1,709,143	276,966	730,237	3,963,717	$60 00	$89 50	$64 25	$14 50	$24 50		$43,099,020	$29,083,000	$77,706,000	$4,016,000	$17,708,000		$171,612,000
1918	791,536	338,702	1,360,880	332,179	601,534	3,022,333	70 00	93 00	70 00	15 00	24 00		55,387,220	30,569,000	95,402,000	4,983,000	14,437,000		200,778,220
1919	800,480	336,996	1,247,448	364,498	445,858	4,126,375	60 00	89 00	60 00	14 00	25 00		48,022,800	29,957,000	74,847,000	5,103,000	11,146,000		169,075,800
1920	741,854	308,601	1,050,334	383,424	286,556	3,899,855	60 00	71 00	45 00	10 00	18 00	$ 94	44,511,060	21,698,000	47,265,000	3,833,000	5,158,000	$2,260,600	124,725,660
1921	916,810	478,848	1,430,664	523,599	574,318	4,963,565	40 00	48 00	28 00	6 00	13 00	86	36,660,400	20,312,000	39,448,000	3,348,000	7,188,000	4,251,500	111,207,900
1922	863,316	392,043	1,543,008	410,366	623,188	5,935,325	40 00	50 00	30 00	8 00	18 00		34,532,640	19,601,850	37,290,150	3,282,928	11,217,384	6,586,187	112,691,139
1923	844,519	341,146	1,111,761	335,243	706,753	6,632,645	40 00	50 00	30 00	8 00	16 00		33,780,760	20,572,300	33,532,530	2,681,944	11,308,048	7,621,674	109,497,256

Maximum and Minimum Temperatures, Precipitation and Hours of Sunshine, Alberta, 1923

STATION	Latitude N	Longitude W	Height above Sea Level	Class of Data	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Precipitation for year	Hours' Sunshine for year
																	Inches	Hours
[illegible]	49° 43′	112° 51′	3761 ft.	Maximum	51	58	69	82	86	86	86	88	86	76	68	59		
				Minimum	25	-37	13	0	25	39	41	37	25	4	2	-34		
				Prec. (inches)	0 48	0 42	0 75	1 09	3 48	4 48	2 55	1 91	0 18	0 55	0 53	0 91	16 40	
				Sunshine (hrs.)	70	117	164	236	271	236	288	275	213	184	121	111		2281
Medicine Hat	50° 1′	110° 37′	2144 ft.	Maximum	48	55	57	85	93	98	95	94	91	77	63	54		
				Minimum	26	-34	2	12	34	42	47	39	31	7	12	-30		
				Prec. (inches)	0 70	0 39	0 43	0.36	1 09	5 35	2 98	0 87	0 01	0.63	0 42	0 41	13.64	
				Sunshine (hrs.)	92	115	140	234	285	283	319	311	239	209	127	105		2463
[illegible]	50° 5′	113° 57′	2500 ft.	Maximum		50	50	70	87	93	94	90	90	73	65	50		
				Minimum		10	-5	0	22	42	43	39	23	0	-4	10		
				Prec. (inches)		0 50	0 90	0.93	1 63	5 12	2 34	1 32	0 00	0 66	0 40	0 30	14 10	
Medicine [illegible]	50° 41′	113° 4′	3128 ft.	Maximum	47	57	66	85	79	88	94	87	86	74	77	54		
				Minimum	23	10	15	4	28	41	42	39	25	3	8	-33		
				Prec. (inches)	0 78	0 70	0 88	1 46	3 05	5 87	1 30	1 44	0 19	0 21	0 70	0.70	17 25	
[illegible]	50° 35′	113° 59′	3321 ft.	Maximum	48	55	64	77	75	80	86	84	85	74	68	52		
				Minimum	15	-46	-30	-8	20	31	35	31	18	5	4	-33		
				Prec. (inches)	1 15	1 50	2 35	2 54	5 96	7 90	3 35	1.34	0.59	0.15	0.10	1 45	27 67	
Calgary	51° 3′	114° 2′	3428 ft.	Maximum	51	63	61	76	79	85	91	88	90	79	70	52		
				Minimum	25	39	6	22	40	36	36	23	3	2	-35			
				Prec. (inches)	0 30	0 59	2 25	0 98	5 38	7 73	3 36	1 21	0 55	0 01	0 44	1 08	24 88	
				Sunshine (hrs.)	88	130	148	181	197	222	[illegible]	270	198	228	156	135		1943[illegible]
Banff	51° 10′	115° 19′	4675 ft.	Maximum	50	55	56	81	83	89	90	90	90	75	69	54		
				Minimum	27	-31	4	28	42	47	47	42	23	6	9	23		
				Prec. (inches)	1 15	0.92	0 68	0.62	8 02	4 10	2 80	0 30	0.21	0.10	0 15	0 32	19 47	
Olds [illegible]	51° 48′	114° 5′	3413 ft.	Maximum	47	65	50	83	75	80	83	81	...	...	...	...	.....	.....
				Minimum	29	43	12	1	20	37	35	31	...	...	...	...		
				Prec. (inches)	0 65	0 60	0 35	0.12	5 38	5 56	2 46	1 23	...	...	...	...		
Lacombe	52° 28′	113° 44′	2851 ft.	Maximum	44	64	55	78	80	88	86	89	90	80	69	54		
				Minimum	-30	-15	-11	3	16	35	39	31	22	4	3	-37		
				Prec. (inches)	0.25	0 50	0 66	1 29	2 01	1 07	3 81	3 57	0 64	0 50	0 01	0 17	17 46	
				Sunshine (hrs.)	70	106	133	190	218	247	275	266	239	222	132	102		2170

Edmonton	53° 33′	113° 30′	2158 ft.	Maximum	84	59	47	81	81	86	85	84	85	75	65	57		
				Minimum	23	−36	−11	5	24	43	39	35	28	8	3	−35		
				Prec. (inches)	1 05	0.77	1.68	0 31	1 71	4 07	3 24	2 62	0 45	0.35	0 17	0.36	16 91	
				Sunshine (hrs.)	78	114	116	276	282	243	273	287	263	230	140	106		2408
Red Deer	52° 16′	113° 49′	2806 ft.	Maximum	85	60	47	78	80	86	85	87	86	77	66	54		
				Minimum	29	−37	−10	−3	16	38	36	32	23	5	−2	−34		
				Prec. (inches)	0.45	0 60	0 68	0 83	2 54	7 47	3 92	5 32	0 97	0.13	0 01	0.01	22 86	
Stettler	52° 20′	112° 10′	2700 ft.	Maximum	45	50	49	71	76	78	85	70	75	75	54	50		
				Minimum	−22	−40	9	6	23	42	41	33	30	3	10	−29		
				Prec. (inches)	0.60	0.55	0.50	1 40	2 04	6 06	3 37	2 97	0 61	0 73	0 00	0.01	18.74	
Vermilion	53° 22′	110° 50′	2079 ft.	Maximum	81	48	41	82	83	89	86	89	85	74	64	49		
				Minimum	36	−15	−27	8	19	36	38	42	25	1	−5	−33		
				Prec. (inches)	0 30	0 65	1 20	0 42	2 36	5 88	2 94	5 24	1 24	0 91	0 00	0.10	21.24	
				Sunshine (hrs.)	88	151	130	271	303	223	263	276	231	220	136	106		2348
Athabasca	54° 43′	113° 17′	1550 ft.	Maximum	81	55	43	74	83	86	85	81	85	75	64	46		
				Minimum	27	−52	−27	15	15	33	31	32	15	7	10	−34		
				Prec. (inches)	0 75	1 15	3 09	0 26	2 78	4 02	1 82	1 71	0 20	0 07	0 42	0.40	16 17	
Peace River District	56° 15′	117° 15′	1225 ft.	Maximum	74	49	45	72	81	91	91	80	78	70	46	41		
				Minimum	35	48	−9	0	34	48	46	38	34	20	−10	−38		
				Prec. (inches)	0 20	0 80	1 60	0 23	0 05	0.80	1 93	0 72	0.00	0 00	0 95	0.50	7 48	
Fort Vermilion	58° 27′	116° 3′	950 ft.	Maximum	80	40	37	68	81	89	88	82	79	76	51	38		
				Minimum	53	56	−43	24	22	47	44	35	17	3	−21	−39		
				Prec. (inches)	0 53	0 43	0 40	0 81	1 97	0 84	2 16	2 99	0 13	0 11	0 62	0.40	11 38	
				Sunshine (hrs.)	72	114	183	254	288	305	327	220	223	179	80	66		2321
Edson	53° 35′	116° 25′	2985 ft.	Maximum	87	55	53	78	79	83	91	84	87	79	67	47		
				Minimum	29	44	−14	5	17	35	34	29	20	2	4	33		
				Prec. (inches)	0 50	0 13	1 45	0 25	1 47	3 06	4 47	1 23	1 48	0 01	0 15	0 80	15 00	

*Records at Olds and Raymore are incomplete. † July sunshine figures at Calgary not recorded.

Data compiled from Records of Dominion Meteorological Service.

Frost-free Period—Alberta. Table Showing Days Frost-free, Last Spring Frost, and First Fall Frost

Ten Year Period—1914 to 1923

Year	Medicine Hat			Calgary			Lethbridge			Vermilion			Edmonton			Athabasca			Ft. Vermilion			Peace River		
1914	146	May 17	Oct. 5	110	June 3	Sept. 27	176	May 13	Sept. 15	103	May 31	Sept. 11	93	May 31	Sept. 1	77	June 9	Aug. 25	58	June 26	Aug. 23	14	June 23	July 6
1915	150	May 6	Sept. 18	83	May 21	Sept. 11	118	May 16	Sept. 11	82	June 18	Sept. 8	86	June 14	Sept. 8	68	July 1	Sept. 7	65	July 3	Sept. 6	109	May 15	Sept. 1
1916	161	May 16	Sept. 14	114	May 24	Sept. 14	105	June 1	Sept. 14	70	June 1	Aug. 10	70	June 1	Aug. 10	67	June 5	Aug. 11	43	June 26	Aug. 13	63	June 8	Aug. 10
1917	168	May 14	Sept. 5	89	June 4	Sept. 1	89	June 4	Sept. 1	56	June 14	Aug. 8	85	June 13	Sept. 6	56	June 13	Aug. 8	15	June 24	July 9	50	June 13	Aug. 23
1918	177	May 7	Sept. 9	84	June 1	July 25	107	June 1	Sept. 15	48	June 2	July 19	52	June 2	July 24	49	June 8	July 24	57	June 2	July 24	49	June 5	July 24
1919	141	May 20	Sept. 8	119	June 1	Sept. 27	171	June 1	Sept. 29	118	June 1	Sept. 26	94	June 1	Sept. 2	85	June 1	Aug. 24	86	June 1	July 25	120	June 1	Sept. 28
1920	111	June 1	Sept. 9	86	June 1	Aug. 26	117	June 2	Sept. 27	79	June 1	Aug. 19	88	June 12	Sept. 9	56	June 7	July 13	54	June 7	July 11	116	June 4	Sept. 28
1921	104	May 28	Sept. 10	94	May 30	Sept. 2	165	May 28	Sept. 9	95	June 2	Sept. 6	96	May 28	Sept. 2	92	June 2	Sept. 3				101	May 30	Sept. 9
1922	158	May 11	Oct. 6	97	June 6	Sept. 6	142	May 13	Oct. 2	91	June 7	Sept. 6	91	June 7	Sept. 6	94	June 7	Sept. 9	63	May 18	July 20	74	June 6	Aug. 19
1923	150	May 1	Sept. 28	106	May 29	Sept. 11	148	May 16	Sept. 11	76	May 19	Aug. 3	111	May 24	Sept. 11	69	May 24	July 31	105	May 30	Sept. 11			Oct. 1

Six Degree Frost Period—Alberta. Table Showing Days and Dates in Eight Year Period—1916 to 1923

Year	Medicine Hat			Calgary			Lethbridge			Vermilion			Edmonton			Athabasca			Ft. Vermilion			Peace River		
1916	153	May 8	Oct. 9	149	May 12	Sept. 28	143	May 8	Sept. 28	120	June 1	Sept. 28	160	April 24	Oct. 1	116	May 8	Sept. 1				115	June 1	Sept. 23
1917	166	May 3	Oct. 18	166	May 3	Oct. 18	150	May 1	Sept. 28	116	June 1	Sept. 24	119	May 30	Sept. 25	116	June 2	Sept. 25				123	May 3	Sept. 4
1918	161	May 9	Oct. 22	153	May 23	Oct. 22	149	May 26	Oct. 22	136	May 17	Sept. 30	153	May 8	Oct. 8	49	June 5	July 24				137	May 16	Sept. 30
1919	137	April 9	Sept. 29	146	May 4	Sept. 27	146	May 6	Sept. 29	122	June 1	Sept. 30	146	May 14	Sept. 27	114	May 6	Sept. 27				120	June 1	Sept. 28
1920	153	April 26	Oct. 15	162	May 5	Oct. 14	145	May 3	Sept. 27	110	June 1	Sept. 18	152	April 29	Sept. 28	121	May 31	Sept. 28				148	May 6	Sept. 28
1921	209	April 11	Nov. 7	136	May 26	Sept. 10	145	May 28	Sept. 13	134	May 27	Sept. 9	164	April 28	Sept. 10	100	June 2	Sept. 11				153	April 7	Sept. 9
1922	181	April 18	Oct. 16	154	May 6	Oct. 7	175	April 19	Oct. 11	117	June 7	Oct. 2	175	April 23	Oct. 16	121	June 7	Oct. 6				161	April 20	Oct. 8
1923	148	May 1	Sept. 26	150	May 15	Sept. 22	140	May 3	Sept. 22	122	May 17	Sept. 16	130	May 15	Sept. 22	114	May 24	Sept. 14	119	May 15	Sept. 11			Oct. 27

From unpublished Data in Meteorological Records.

Report of the College of Agriculture

H. A. CRAIG,
Deputy Minister of Agriculture.

SIR,—

I have the honour to present herewith the Report of the College of Agriculture for the year 1923.

The enrolment of students in the College of Agriculture for the year 1923 was as follows:

Spring Term:

First Year	27
Second Year	28
Third Year	12
Combined Course—Arts and Agriculture	11
Household Economics (Girls)	6
Graduate Course	3
Total	87

Fall Term:

First Year B.S.A.	25
First Year B.Sc.	10
Second Year B.S.A.	13
Second Year B.Sc.	2
Third Year B.S.A.	10
Third Year B.Sc.	14
Fourth Year B.Sc.	10
Combined Course—Arts and Agriculture	5
Graduate Students	9
Household Economics (Girls)	6
Special Students	1
Total	105

It will be noticed that there is an increase of 18 students over last year's enrolment. The difference in the classification is caused by the fact that a new degree course in agriculture was offered at the opening of the fall term of 1923. Under the previous arrangement only students from the Schools of Agriculture, or those possessing similar credits, were admitted to our B.S.A. course. Under the new arrangement a four-year course of the full University year, with the usual matriculation requirement for entrance, is offered; this course leads to the degree of B.Sc. in Agriculture. Students from the Schools of Agriculture are admitted to this course if they have matriculation standing, and are given one year's credit at entrance on this four-year course. By this change agriculture is placed on exactly the same footing in the University as all other Faculties, and our degree will receive recognition at all approved colleges.

There has been an increase in the number of graduate students. The College of Agriculture has the trained staff necessary to put on this work in some departments; already attention is being attracted from outside the Province to this work.

It will be noted that there are six students entered for the degree of B.H.Ec. These girls are from the Schools of Agriculture, this part of the Domestic Science work being under the direction of the Faculty of Agriculture.

Graduates of the College of Agriculture have been particularly successful this year in winning recognition from other institutions. Following is a list of the scholarships and fellowships won by the graduates:

E. G. Bayfield	—Scholarship at Macdonald College, awarded by the Wm. C. Macdonald Registered.
S. C. Robinson	—Milton Hersey Scholarship, offered through Macdonald College.
Andrew Cairns	—Fleischmann Scholarship, offered through the University of Minnesota.
W. F. Hanna	—Scholarship offered by the Canadian Society of Technical Agriculturists. First offered in Canada; won in Dominion-wide competition.
A. Dingwall	—Part-time student, Scholarship offered by the University of Minnesota.
G. B. Sanford	—Scholarship offered by the University of Minnesota.
Carl Scholl	—Fellowships offered by the University of Minnesota and California. Elected to accept California appointment.

This is a record not often equalled.

Our students have courses in Chemistry, Physics, Biology, Bacteriology, Zoology, Political Economy, English and Mathematics. This work is put on by the departments which serve all the Faculties of the University.

Following is a report by departments of what may be described as the directly agricultural work of the College.

DEPARTMENT OF POULTRY

No courses are given in this Department although space has been left for such on the time table. An instructor in poultry was not provided to take the place of Professor Bergey, who resigned two years ago. Now that we have students coming to us directly from the high schools it becomes doubly necessary to provide an instructor in this important department, and to begin the establishment of a poultry plant for breeding and experiment.

DEPARTMENT OF AGRICULTURAL ENGINEERING

Three courses are given, Farm Machinery, Farm Motors, Farm Buildings.

This department gave assistance in three short courses during the year: International Harvester Co. in Edmonton; a course put on by the Department of Extension at Red Deer; and a course given to farm young people.

In June, assistance was given in judging at plowing matches put on by the Department of Agriculture. In addition to the foregoing, several special trips were made to investigate certain problems.

A bulletin on Plows and Plowing has been published and the manuscript of another on rope work is ready for the printers.

A good many letters were received asking for assistance in matters pertaining to farm mechanics. Acknowledgment is here made to the different agricultural implement companies who have assisted by providing machinery for our laboratory; one company has over $4,000 worth of equipment in our laboratory. The Department of Agricultural Engineering is handicapped for lack of space, otherwise even more laboratory equipment would be furnished free.

DEPARTMENT OF HORTICULTURE

The growing season of 1923 was one of the most favourable for tree growth experienced for some years. Trees, shrubs and bushes in the wild produced bloom in profusion and fruit set in such abundance as has not been seen for years. The same was equally true of the cultivated fruits, indicating wonderful returns possible if more attention were given to these valuable aids to the home.

The bush fruits did particularly well. There was no winter killing even where they were unprotected. So favorable was the growing season that raspberry canes made a growth of five and six feet, as compared with about three last year. The yield was well up to the average of the past years in spite of the short canes.

The yield of red and white currants was better than the average and that of the black currants much above. One variety of black currants gave a yield at the rate of $1,000.00 per acre, another over $1,200.00, and a third $1,685.00 per acre. A wild black currant cultivated in the garden for some years is promising well. A few varieties of red and black currants were set out.

Eighteen varieties of strawberries grown in the open without protection were all killed. There is no question that this was helped by the shortage of moisture as well as lack of protection.

There was considerable freezing back of the new growth of the apple trees and also an increase of fungus disease among the trees due to black heart trouble which has been very prevalent. So serious has this condition become that it may be advisable to destroy the trees and start over again.

The cultivated crab-apples have not stood the test any better, and will be removed next spring to make way for a new lot.

The crosses with the wild crab of Siberia (*Pyrus bacata*) have all proven hardy, starting each year from the terminal bud. Of these the earliest is Silvia. One tree of this variety bore its third crop, and two other trees their second crop this year. The apples are a pale yellow in color and from an inch to an inch and a quarter across, and an inch and a half in length. Two trees of a second variety—Jewell—fruited for the second time, giving a smaller apple averaging about an inch in diameter and one and a

quarter long, but more tart in flavour and a harder apple. Both varieties made excellent jelly. Both these varieties can be grown in any garden.

This year several trees of the wild Siberian crab gave heavy yields of apples a little better than one-half inch in diameter. Seed was saved from the largest of these trees for a stock of seedling trees for grafting and instruction purposes.

A very promising fruit is a cherry plum cross. The plants grow as bushes rather than trees and bear a nice quantity of purple colored fruits, low down on the branches. Only one of three varieties fruited this year, bearing its third crop. These cherry-plums are from an inch to an inch and a quarter in diameter and make a jam of very superior flavour.

The row of saskatoons gave an astonishingly large yield of fruit again this year. This is now four heavy crops in succession. It would appear that there are possibilities in this fruit that have been overlooked.

There was some winter killing among the perennial flowers, one or two varieties, that have stood the test for years, dropping out. Among the perennials deserving special mention are the peonies, irises, lilies and the bleeding heart. They are all hardy, well known old flowers, and do well in the flower border. They should be given a trial. To these can be added some forty or fifty other hardy perennials that can be recommended to grow in the border, making a profusion of bloom.

The permanent plantings of trees and shrubs about the grounds came through the winter without a failure. Additional plantings were made, particularly caragana hedges, about 1,300 feet in length; in all, over 3,000 shrubs and trees were lifted and planted: all made good growth. Quite a few of the Russian poplars made over four feet of growth.

Virginia creeper of the self-clinging kind having done so well on the Arts Building, cuttings were taken and now plants have been set out around the other buildings.

DEPARTMENT OF DAIRYING

In addition to the regular academic work of three full year courses given by this Department to students in agriculture, two short courses for professional dairymen were put on, January 8th to 19th, and March 12th to 23rd, 1923. Twenty students attended the former and thirty-six the latter course, making a total of fifty-six students. This was a satisfactory response to the announcement of the courses which was circulated among the dairy factory operators of the Province. The announcement was confined to this field for the reason that our laboratory facilities can accommodate only a limited number of students. In the March course we became so crowded that the class had to be subdivided and one of the adjoining engineering laboratories was placed at the disposal of this Department during the course.

Experimental Work:—The Department has under way some special work upon which no report should yet be made. It is hoped, however, that it may be sufficiently advanced this year to be of considerable value to the industry for the coming season's operations.

DEPARTMENT OF ENTOMOLOGY

Three courses in Entomology were given by this Department.

During the summer about half time was devoted to assisting the Department of Agriculture in its campaign for the control of grasshoppers. The organization and control measures adopted in the summer of 1922 had been so successful that the spread of this destructive pest had been definitely checked, and only in comparatively small districts of the infested area were conditions such that personal advice and supervision were necessary. A local outbreak of the Roadside grasshopper which threatened to occasion serious losses occurred in the Grande Prairie region of the Peace River district. The majority of farmers of this region were unfamiliar with the habits and control of this pest, with the result that early in the season little attention was paid to the enormous numbers of small hoppers that had hatched out in the sod. At the request of the Department of Agriculture, Grande Prairie was visited during the latter part of May, and by means of addresses and field demonstrations, a campaign was inaugurated which resulted in the establishment of energetic control measures throughout the threatened territory.

A serious situation arose later in the season in the extreme Southern portion of the Province. In the adjacent State of Montana, on account of an ineffective campaign of eradication in 1922, the Lesser Migratory Grasshopper was entirely beyond control in the spring of 1923. Not only were some 500 square miles of territory in that State entirely denuded of all growth other than native sod, but frequent migrations northward from this devastated region seriously menaced the splendid crops of Southern Alberta. Serious losses were avoided by the use of exceptionally large quantities of bait in this territory, but it is feared that there has been an inevitable reinfestation that will necessitate a continuation of the campaign in 1924.

The infested area of Montana was visited, and the conditions encountered there constituted an indubitable vindication of the policy that was adopted in Alberta in 1922 upon the recommendation of this Department. It is now seen that, owing to the adoption of a more "economical" campaign in Montana in 1922, the resulting losses in one county far exceeded, in 1923, the entire cost of the campaign in the infested area of Alberta.

Since it was seen that the southern portion of the province was menaced by a serious reinfestation from the devastated region of Montana, communication was established with the State Entomologist regarding the feasibility of a conference for a discussion of the best method of dealing with the situation. This resulted in the

promise of an improved campaign in Montana during the spring and summer of 1924.

The outbreak of the Forest Tent Caterpillar throughout the Northern portion of the Province did not receive as close attention as was desirable, since it occurred simultaneously with the most active period of the grasshopper campaign in the South. Its causes, and probable length of duration were, however, investigated. Numerous letters regarding this pest were answered, and in press articles and an address the best methods for its control were outlined.

Other pests, regarding which information was requested by correspondents, included: Cutworms, Wireworms, Flea-beetles, Currant Sawflies, Currant Maggots, Turnip-beetles, various plant lice, Wheat-stem Sawflies, etc.

Little definite information regarding the habits, and control, of many of these insects in the northern portion of the province is available, and it is especially desirable that a biological study of the wireworm fauna of the province be made. Correspondence received by this Department indicates that these insects occasion considerable damage annually, and that the habits of some of the species are so much at variance with those of the species that are most destructive in the southern portion of the province that no general recommendations for their control can be given.

Owing to the lack of necessary equipment for investigational work, no investigational work could be attempted during the year. All available time was given to the collection of material for the classroom and for the reference collection of the insect fauna of Alberta. A cabinet for the latter has been procured and all available named material is being transferred to it.

DEPARTMENT OF SOILS

The progress of the work of the Department of Soils for the year 1923 is as follows:

Owing to the decrease in appropriations it was necessary to dispense with the services of two of our staff. The remaining members of the staff have continued the work on the soil survey report for the Macleod sheet; for which the analytical work was completed in July. The results have since been tabulated.

Chemical and mechanical analyses were made in approximately 200 samples of soil, representing the seven most important soil types of the Macleod sheet, and covering an area of about 2,235,000 acres. Of this about 11 per cent. is eroded area, river bottoms, and mixed types in general, largely unsuited to farming. About 9 per cent. is sand, and 12 per cent. sandy loam, or 21 per cent. of the lighter classes and about 68 per cent. of the more desirable soil types. It was found that only slightly more than 50 per cent. of the total area was devoted to crops, and that of all

the crops, wheat and oats constitute from 92 to 95 per cent. of the total, with about four or five acres of wheat for each acre of oats.

The fertility invoice of the sands is only about one-half that of the better types of soil, whereas the sandy loam is about two-thirds that of the better types.

Provision should be made for the completion of the analytical work and checking of the field work on the Medicine Hat sheet, so that a report for this area may be submitted some time during 1924. It is hoped that provision will be made for a continuation of the field work in connection with the soil survey.

During the past summer and fall, investigations have been conducted to determine the rate of decomposition of organic matter in the soils of the Edmonton district. Upwards of 300 samples of soil have been subjected to analysis. This work has disclosed some very important and interesting data as follows: The Edmonton soils have a high nitrifying power. In the early spring all plots were high in nitrates. The nitrates increased with the advance of the season in the summerfallow, and decreased under all crops. At no time were the plots under perennial crops as high in nitrates as those under annual crops. Some of the plots contained sufficient nitrates to produce a 50-bushel crop of wheat without any further decomposition of organic matter. The summerfallow plot contained about the same amount of nitrates as the other plots in the early spring, but at the end of the season was from 5 to 10 times as high as the cropped plots. The summerfallow plot contained much more water than any of the cropped plots, and was generally near the saturation point for the upper two feet of soil, whereas the timothy and alfalfa plots were often almost down to the wilting point. It is hoped to publish the results of this investigation during the coming winter. This investigation should be continued at least during one more summer and fall.

A considerable number of miscellaneous samples have been analysed for farmers and reports made on same; together with minor pieces of work for the Provincial Department of Agriculture.

Several hundred samples of alkali soils and drainage water have been analysed, and it is hoped to expand this work during the coming year.

The Department of Animal Husbandry transferred a piece of land to the Department of Soils for experimental purposes; but, it was impossible to obtain data for yields this year. The land will be laid out in plots and subjected to experiments in the spring of 1924.

Dr. J. D. Newton has been devoting a part of his time to the following investigations: Measurement of carbon dioxide evolved from roots of different crop plants, with a view to understanding the effects of these different crops upon soil compounds. Rates of carbon dioxide evolution are being related to rates of transpiration and growth. It seems desirable to obtain more data before publishing these results.

Dr. Newton has published the major part of his Doctor's thesis in "Soil Science" Vol. XV., No. 3, March, 1923.

The following two circulars have been prepared by the Department, and are now ready for the press:

1. Soil Sampling.
2. Inoculation of Legumes.

DEPARTMENT OF ANIMAL HUSBANDRY

There are at present 7 purebred Belgians, 7 purebred Percherons, and 5 registered Clydesdales on the University Farm. This year we were successful in raising four foals: 2 Clydesdales, 1 Percheron and 1 Belgian. During the year we lost one of the Percheron mares from acute indigestion. In order to maintain a sufficient number of Percherons for class-room work we purchased this year a pair of fillies. These were selected from the Bar U stud: both are rising three-year olds and give promise of developing into good brood mares. One Clydesdale filly rising two-year-old was purchased from the E. P. Ranch. This mare was imported this year; she is sired by one of the outstanding stallions in Scotland, Dunure Recollection, is a good representative of the breed and will strengthen considerably the Clydesdale stud at this institution. In addition to the purebred horses, 6 grade horses are maintained to help out with the farm work. One saddle horse, the Farm Superintendent's horse, and a two-year-old grade colt complete the horses maintained at this Institution.

Beef Cattle:— Representatives of the three beef breeds—Shorthorns, Herefords and Aberdeen-Angus—are maintained on the University Farm. A purebred Aberdeen-Angus bull was added to the herd this year. This bull came from Mr. Henderson's herd at Lacombe. He is an exceptionally well bred animal, two International grand champion bulls appearing in the first three generations on his sire's side. The increase from the beef herd has been rather disappointing this year due to the outbreak of abortion in the summer. We have on hand at present, however, a few calves of both sexes. Due to the fact that the demand for bulls has been limited, the male calves for the most part have been castrated and will be developed as steers to be used for classroom work. In addition to the calves bred at the Institution, several breeders in the Province have donated calves which will help complete our herd of show steers another year. In addition to the breeding herds, 75 feeder steers were put into the feed lots this fall to be fed throughout the winter. These steers are being used in conducting various feeding trials mentioned elsewhere in this report.

Dairy Cattle:— A few very creditable milk records have been completed during 1923 in the dairy herd. The purebred Jersey heifer U. A. Silk Gown 5th, produced 7,490 pounds milk and 429 pounds butterfat as a two-year-old in the 305-day division. This is the third highest butter fat for this age and class in the Dominion, and leads in the three prairie provinces. In Holsteins, Pontiac Hulda Wayne and Rosebud Hulda Wayne produced 15,762 pounds

milk, 524 pounds butterfat, and 14,534 pounds milk and 572 pounds butterfat respectively, in the two-year-old class. In the three-year-old Holsteins Rosebud Pontiac DeKol gave 14,840 pounds milk and 575 pounds butterfat, and Hulda Pontiac Lass 12,070 pounds milk and 459 pounds butterfat. The three mature cows, Rosebud Mutual DeKol, Sady Mutual DeKol and Lady Boanerges of Hillside, that completed records this year, gave an average of 17,137 pounds milk and 577 pounds of butterfat.

"LINDA GAY LAD"

Pure-bred Hereford steer. Bred by University of Alberta. Champion steer at Eastern and Western show circuits, 1923 and 1924.

A few of the Jerseys in the herd were disposed of this year; they were animals that were comparatively low in production and inferior in breed type. No additions were made to the herd this year. Over a year ago a number of cows in the dairy barn were affected with vaginitis. These were given treatment and later upon being bred proved to be in calf, but afterwards a few of them aborted. The result is that the increase in calves this year is comparatively small. The trouble with abortion is not yet altogether stamped out, and we have now taken steps to have all affected animals isolated and given treatment by means of the live baccilli. It is hoped that during the next year the entire herd will be completely cleaned up and again be on a productive basis.

Only two breeds of dairy cattle are maintained at this Institution as yet—Holsteins and Jerseys—there being 20 Holsteins and 14 Jerseys.

Sheep:— During the summer about 50 grade ewes were disposed of as the flock was becoming too large to handle with the pasture available. In order to carry on the experimental work with sheep that is considered essential, however, it is necessary to carry a reasonably large flock of grade sheep. Approximately 110 grade

ewes are on hand at present, practically all of which are being used in winter feeding trials. In addition to the grade flock, representatives of five breeds are maintained for our teaching work in Animal Husbandry. A small flock of Oxford Downs was added to the flock during the present year. These were purchased from the Earl of Minto's ranch, and some of these ewes are part of the foundation flock that was established at this ranch a few years ago. Included in the purchase are a few imported sheep, the balance being bred from imported stock. Altogether we have 89 purebred sheep including the following breeds: Hampshires, Suffolks, Shropshires, Oxfords and Leicesters. There has been a keen demand for breeding stock during the present year, and quite a number of purebred rams and ewes from the University flock have been disposed of to breeders in various parts of the Province.

Swine:— The present year has been a very satisfactory one so far as the Swine Department has been concerned. Last spring approximately 60 sows farrowed. A few litters born in March suffered more or less with pleuro-pneumonia due to the cold weather; with the exception of a few deaths from this trouble we were quite successful with the spring-farrowed litters. Between 25 and 30 sows were bred to farrow this fall in September. There was an average of very close to 8 pigs per litter, which means we are carrying a comparatively large number of hogs through the winter. Feed is cheap, there is considerable experimental work that should be carried through, we have accommodation for the number on hand, and we feel justified in increasing slightly the number of swine at this Institution.

Previous to this year breeding work was carried on principally with the Tamworth and Berkshire breeds. Early in the year a small herd of Yorkshires was established by the purchase of four sows and a boar. With the increased demand for bacon hogs to supply the British market, it seemed advisable to give this popular breed a place in our breeding work in order to determine their suitability in the Province of Alberta. In addition to the three breeds mentioned, a few Duroc Jersey and Poland China sows are being retained. This is necessary in order to provide material for classroom work. During the past year a number of purebred hogs of both sexes have been sold to breeders in the province to improve their herds.

STEER EXHIBIT:—Fifteen steers from the University were exhibited this year at the larger Eastern shows, i.e., The Royal Agricultural Winter Fair at Toronto, The International Live Stock Exposition at Chicago, and the Provincial Winter Fair at Guelph. This exhibit was made possible by the co-operation of some of the prominent breeders of purebred beef cattle in the Province. These breeders donated the steers, as calves, on the understanding that they were to be fitted and shown by the University. In addition to the animals received in this way, a few steers bred on the University Farm were also included in this year's exhibit. The entire herd of fifteen were in competition at the Royal Show, six

steers only were shown at Chicago, and nine at Guelph. The following list gives the details of the the winnings at the three shows:

TORONTO

4th Senior yearling, Shorthorn, Craigievar Mascot, Wm. Sharp, Lacombe.
5th Junior yearling, Shorthorn, Snowball Perfection, Jas. Sharp, Lacombe.
6th Junior yearling, Shorthorn, Craigievar Viscount, Wm. Sharp, Lacombe.
3rd Junior calf, Shorthorn, Craven's Snowman, J. Chas. Yule, Carstairs.
5th Junior calf, Shorthorn, Lovely Supreme, University of Alberta.
1st Junior yearling, Hereford, Linda Gay Lad, University of Alberta.
4th Junior yearling, Hereford, Beau Perfection, S. D. Blair, Red Deer.
2nd Senior calf, Hereford, Don Radio, University of Alberta.
4th Senior calf, Hereford, Helen's Lad, University of Alberta.
1st Senior yearling, Aberdeen-Angus, Knight of Willow Park, C. H. Richardson, Bowden.
1st Junior yearling, Aberdeen-Angus, Eliminator's Best L.E.S., Lacombe Experimental Farm, Lacombe.
4th Junior yearling, Aberdeen-Angus, Marshal of Hartburn, A. E. Noad, Olds.
6th Junior calf, Aberdeen-Angus, Alta Bartlet, A. E. & E. S. Clemens, Sedgewick.
7th Junior calf, Aberdeen-Angus, Victor's Pride, University of Alberta.

Champion Hereford steer and reserve grand champion steer of show—Linda Gay Lad.

Champion Aberdeen-Angus steer—Eliminator's Best L.E.S.

CHICAGO

(Only six steers from University showing)

5th Senior yearling, Shorthorn, Craigievar Mascot, Wm. Sharp, Lacombe.
4th Junior calf, Shorthorn, Craven's Snowman, J. Chas. Yule, Carstairs.
4th Junior yearling, Aberdeen-Angus, Eliminator's Best L.E.S., Lacombe Experimental Farm, Lacombe.
8th Senior calf, Hereford, Don Radio, University of Alberta.
11th Junior yearling, Hereford, Linda Gay Lad, University of Alberta.
5th Group Shorthorn steers.

GUELPH

1st Steers over 1 year, Shorthorn, Snowball Perfection, Jas. Sharp, Lacombe.
1st Steers under 1 year, Shorthorn, U. A. Golden Drop, University of Alberta.
3rd Steers under 1 year, Shorthorn, U. A. Lovely Supreme, University of Alberta.
2nd Steers over 1 year, Aberdeen-Angus, Marshal of Hartburn, A. E. Noad, Olds.
3rd Steers over 1 year, Aberdeen-Angus, Knight of Willow Park, C. H. Richardson, Bowden.
1st Steers under 1 year, Aberdeen-Angus, Alta Bartlet, A. E. & E. S. Clemens, Sedgewick.
3rd Steers over 1 year, Hereford, Beau Perfection, S. D. Blair, Red Deer.
3rd Steers under 1 year, Hereford, Helen's Lad, University of Alberta.

Champion Shorthorn steer—Snowball Perfection.

4th—Group of Three Steers under 1100 pounds.

EXTENSION WORK

During the present year the members of the Department of Animal Husbandry have spent considerable time in extension work throughout the Province. This has taken the form of attending farmers' meetings in connection with Soldier Settler work, as well as assisting the Provincial Department of Agriculture with Farmers' Institute meetings. At the request of the Superintendent of Fairs and Institutes a number of fairs in various parts of the Province were attended and assistance given in judging.

FEEDERS' DAY

The second Feeders' Day put on at the University of Alberta was held last April at the time the feeding trials being conducted during the winter were completed. It is recognized that in order to make experimental work worth while it is necessary that the general public should be kept in touch with the results of such tests. Experience at this institution in common with others, has shown that there is no better way of doing this than by means of what has come to be known as Feeders' or Farmers' Day. The event this year was very satisfactory indeed. Over 200 were in attendance, including farmers, especially those interested in livestock feeding problems, commission men, packers, experimentalists, farm newspaper editors, as well as representatives of the Provincial and Dominion Governments. The animals used in the feeding trials during the previous months were on view, and those present had an opportunity of seeing for themselves the actual results of these experiments. Prominent livestock men in the Province, and representatives from the Provincial Government and the Natural Resources Department of the Canadian Pacific Railway Co. very kindly co-operated, outlining the results of livestock experimental work carried on by their various institutions.

PUBLICATIONS

Two bulletins were prepared by the Department of Animal Husbandry during the year. Bulletin No. 1 "Rations for Wintering Pregnant Ewes," is a complete report covering three years' work at this Institution with various feeds most commonly used for winter feeding of breeding ewes. "The Production of Fall Pigs in Alberta," Bulletin No. 7, is compiled from data secured during the past few years at the University of Alberta in respect to the economy of fall litters, together with a few suggestions on the winter feeding and management of swine. These bulletins are being distributed by the Department of Extension at the University.

EXPERIMENTAL WORK

Steer Feeding :— During the winter of 1922-23 the third test comparing the value of sunflower and oat silages for fattening steers was completed. The results of the three trials correlate very closely, showing that, for finishing steers, oat silage was superior to sunflower silage. The report of this experiment covering the three years' work has been carefully checked and compiled and should be ready for publication early in the New Year.

Experiments with Sheep :— Work was commenced two years ago with a view of comparing the effect on the growth and development, together with the breeding capacity, of sheep when bred as lambs with those that were not bred until a year later. An experiment of this nature necessarily takes some few years to carry through. Two years' trials have brought out some rather interesting facts. No report on this work will be available for a year or two yet.

Experiments with Swine:— In 1923 three years' work was completed with a view of determining the economy of fall pigs. It was found that fall pigs could be raised at a profit. The average of three years' work showed that it took approximately 500 pounds of grain to produce 100 pounds gain under winter conditions. A three years' average figure taken from experiments conducted at this Institution showed that it required 469 pounds of grain to produce 100 pounds gain with spring-farrowed pigs, self-fed on pasture during the summer months. While the difference is somewhat in favour of spring-farrowed pigs, it was found that the increase in price for the fall pigs marketed in the spring practically offset any difference in economy of gains in favour of the pigs fed during the summer. The results of the winter feeding trials showed that when extra labor and cost were considered it did not pay to cook the ordinary grains for winter pig feeding. Bulletin No. 7, "The Production of Fall Pigs in Alberta," issued by the Extension Department of the University of Alberta, gives a complete report of all the trials in connection with the winter feeding of pigs at this Institution.

Experiments with Dairy Cattle:— The first experimental work of any nature with the dairy herd at this Institution was commenced this year. A comparison is being made of the relative value of oat silage and sunflower silage for milk production.

Determination of Silage Production Costs:— During the past season the Department of Animal Husbandry has made an attempt to gather some figures on the cost of producing oat and sunflower silages. In this work the co-operation of several farmers in various parts of the province was secured. The farmers have kept records of labour costs in connection with the growing and harvesting of these crops, and a check was also made on the yields in as far as it was possible to do so.

Losses in Ensiling:— Records are being kept on the crops in the various silos on the University Farm with a view of determining the losses that occur in ensiling both sunflowers and oats. The losses will be based on moisture content, and the changes that occur in the chemical composition of the silages at various depths in the silo.

DEPARTMENT OF FIELD HUSBANDRY

As was announced a year ago, the work in the Department of Field Husbandry has been organized along three lines, viz.: Field Crops and Field Crop Experiments, Plant Genetics and Plant Breeding, and Plant Biochemistry. This arrangement offers opportunity for specialization, and enables the work of the Department to progress systematically.

Results of field crop experiments over five-year test periods are now available. These indicate the varieties of farm crops best suited to existing conditions.

ALBERTA CROP IMPROVEMENT ASSOCIATION

Mention has been made of the many researches and investigations at present under way in the Department of Field Husbandry. These are chiefly, if not wholly, conducted in field or laboratory at the University. Another phase of our departmental activities is that associated with the Alberta Crop Improvement Association. The activities of this Association serve as the arm of the department, and reach out to the uttermost parts of the Province and give contact with the man on the land. The Alberta Crop Improvement Association is an outgrowth chiefly of the plant breeding and crop improvement programme carried out in the department since the summer of 1918. The need for more and better suited wheats, barleys, peas, grasses, clovers, corn and sunflowers, was one of the impressive and insistent facts borne out by a close preliminary study of climate, topography and natural vegetation, conducted in the summer of 1917. It revealed, moreover, the great latent possibilities of seed-growing in this province. Inasmuch as no systematic breeding or crop improvement work was under way at any of the experiment stations in the province at that time, the need for the vigorous prosecution of a comprehensive plant breeding programme seemed all the more urgent.

By 1919 and 1920 our plant breeding gave promise of yielding some improved strains of cereal grains, due to selection, and in the near future it was apparent that several new strains, or hybrids, would be available. The question arose, as to how best these products could be gotten out to the constituency, and thus ascertain their worth for the varied conditions we were trying to serve.

Another condition arose which claimed our attention and most earnest consideration. We refer to the call for assistance which was coming from growers of registered seed. At this time, there were only a few members of the Canadian Seed Growers' Association scattered over the Province of Alberta.

On account of varying circumstances there were many problems incident to the activities of the Association in Alberta. Some of these may be mentioned: crop and seed inspection; production of Elite stock seed in sufficient quantities; the limitations, indeed the impracticability of a western farmer keeping a hand-selected seed plot (as was required of all members of that time) because of the extensiveness of his operations in the production of grain; the difficulty of securing suitable varieties for all conditions of climate, soil, altitude; and the most obvious need for producing a large supply of registered seed so that all farmers might derive the greatest benefit from the selection and breeding work being conducted at the University.

In view of the needs and difficulties cited, and in an endeavor to bring as much assistance to the crop producers as possible, the Department of Field Husbandry after carefully reviewing the best known seed-growing organizations in Europe and America, took the initiative in 1919-20, in forming a provincial organization, known as the Alberta Crop Improvement Association. This association has been operating very successfully and growing rapidly from the

date of its inception up to the present time. It is essentially an association of farmers interested in better crops and registered seed. Although it offers assistance to all farmers in the province, its membership does not include all farmers, since the association was designed to function in two ways, viz., first, co-operatively with the Department of Field Husbandry in making local tests and multiplying new strains produced by selection and breeding, and secondly, by the multiplication of varieties and strains in commercial quantities. The latter of these harmonizes well with the aims of the regular Canadian seed-grower.

The Alberta Crop Improvement Association imposes no fees for membership. It is informal and non-commercial, and only tests of crops for their suitability are undertaken. Experimental tests in cultural methods have not been encouraged owing to the fact that sufficient supervision to make these of value could not be provided. It will be seen that the activities of this association constitute the field work of the Department of Field Husbandry.

Following are the outstanding conditions under which membership is given:

1. All seed is sold at a cash price, whether for small tests or for the production of registered seed in large quantities.

2. Sufficient Elite seed, under Section 2, is supplied to enable the grower to get into the production of commercial quantities of seed in a minimum of time. This ensures high purity and quality of the ultimate product.

3. Membership is retained by giving formal reports of crop tests carried out under Section 1, and paying cash for all seed.

During the first four years (1919-1923) of the association's operations most gratifying results have been secured. They serve to point to the great need for such work as well as the future possibilities. Some three thousand crop tests have been conducted by farmers in the province, in crops and seeds sent out from the University. As old varieties are purified, or new strains are isolated, or hybrids developed, they are offered to these co operators under Section 1 of the association. These tests extend from Vermilion in the north, to Sweet Grass in the south, and indicate the suitability of such products for the great multiplicity of conditions under which they are grown. The chief crops and varieties to be tested to date are: Sweet Clover, Arctic Sweet Clover, Common Biennial Sweet Clover; Alfalfa, Grim; Red Clover, Altaswede Clover; Grasses, Western Wheat Grass; Wheat, Marquis, Ruby, No. 111; Oats, Banner, Victory, Golden Rain; Barley, O. A. C. No. 21, Alberta Beardless, Smooth Bearded; Peas, White Albertan, Alberly Blue; Corn, Howes Alberta Flint.

The value of such tests cannot be overestimated. They indicate the suitability of a given crop for local conditions which information is valuable to the farmer and experiment station alike. Without such information the plant breeder or instructor in crops works, as it were, blindly. Should it be a new crop, or new variety of crop to the district, every one is interested in seeing how it will

succeed, and accordingly the whole district benefits. It inculcates a desire, moreover, in the farmer for a wider range of crops, particularly if such as sweet clover, alfalfa, or red or alsike clover tests prove promising for the district in which he is interested. Many farmers have, by their own statements, been led to make cultural tests on quite a large scale. The general information which is conveyed to this department, by the members' formal reports, is of the greatest value in teaching work and constitutes a very valuable source of material in answering questions in crop production.

Farmers in many instances use seed resulting from their tests for future production of this or that particular variety of crop, which by test has shown a suitability. Altaswede Red Clover, Western Wheat Grass, White Albertan Peas, Sweet Clover, and some of the common cereals have in many instances been established in this way.

Under Section 2 the association's activities have been even more extensive. Starting modestly in the winter of 1919-20, with some six seed-growing centres in the eastern and central parts of the province, with some 28 farmers growing seed, the membership has increased to between 300 and 400, all of whom are growing registered seed. Some 45 seed centres, located in all sections of the province, are now arranged for.

Elite stock seed was in such demand during the winter of 1922-23 that it was found impossible to serve all. However, with so much first and second generation seed available, from growers procuring seed in former years, no one need go without excellent stock seed.

The chief varieties to be distributed for registered seed production were Marquis, Banner and Victory. Other crops to be sent out, though not eligible for registration, were Altaswede Clover, Howes Alberta Flint, White Albertan Peas, together with some newer strains of cereals not yet named.

It is not possible accurately to estimate the amount of registered, registrable, and good commercial seed not eligible for registration, though tracing back to Elite stock, that has resulted from the Elite seed thus far distributed. Close calculation was kept on these amounts until the figures reached a half million bushels. It is probable that the total will have reached several millions by this date. It is a common occurrence to receive letters from farmers whose whole farm is seeded to "thoroughbred" seed. It is fair to state that sections of the province are using nothing but seed which traces back to Elite seed. In numberless instances registration is not being sought, the desire being merely to have pure, uniform seed and crops from properly selected seed of standard and other approved varieties.

Some very interesting developments have grown out of the work of the members interested in registered seed production. Inasmuch as the Alberta Crop Improvement Association did not lay plans at the outset to market Elite seed produced by its mem-

bers, it nevertheless recognized that this phase of production would soon require definite attention, and perhaps further organization of some kind. Hence, in order that the superior quality of this registered seed might be effectively brought to the attention of the public, including the American and Canadian seed houses, encouragement and assistance was given by the Department of Field Husbandry in 1920 and 1921, in which assistance has since been given by the Provincial Department of Agriculture, in assembling and placing entries from their seed crops in the International Grain and Hay Show at Chicago. All those who desired were carefully advised as to the suitability of their seed for showing at Chicago, and the proper method of preparation for competition.

Very conspicuous success has attended the efforts of many members who competed at Chicago. These successes have attracted the attention, not only of Alberta farmers in general toward the members of the Alberta Crop Improvement Association, but also of leading agricultural men in every province and state of North America to recognize the excellence of the registered seed which is being produced in this province. Such successes have also emphasized generally the fact of Alberta's capabilities of producing seed of the very highest quality. This effort and success by the growers at Chicago has paved the way for the marketing programme which, during the last 14 to 16 months, has been evolved by the Provincial Department of Agriculture in conjunction with the growers.

Another undertaking, with the same purpose in view, was the placing of an educational exhibit in the 1923 International Grain and Hay Show in co-operation with the Department of Agriculture. This exhibit combined to illustrate the methods followed in Alberta in producing and marketing registered seeds. The aim being, more particularly, to show how that by the combined effort of the Federal Government, the Provincial Government, and the University, registered seeds are produced and marketed according to definite rules and regulations in the best interests of the producer, seed production, and agriculture as a whole.

PUBLICATIONS PRINTED FOR DISTRIBUTION

1. Roughages for Wintering Pregnant Ewes.
2. Growing Sweet Clover.
3. Growing Registered Seed in Alberta.
4. Altaswede Red Clover.
6. Plows and Plowing.
7. Production of Fall Pigs in Alberta.

Cor. No. 1 Potato Seed Treatment.

Material for about ten bulletins is ready for publication, or will be ready for publication during the coming year.

All of which is respectfully submitted,

E. A. HOWES,
Dean.

Report of the School of Agriculture, Claresholm

H. A. CRAIG,
Deputy Minister of Agriculture.

SIR,—

I have the honour to submit the Annual Report of the Provincial School of Agriculture, Claresholm, Alberta, for the year 1923.

On October 30th, 1923, the Claresholm School of Agriculture commenced with the following staff:

J. C. Hooper, M.A., Principal, Provincial Biologist, Instructor in Science.
G. B. Walker, B.S.A., Farm Manager, Instructor in Animal Husbandry.
H. McArthur, B.S.A., Instructor in Field Husbandry.
W. Lawler, Toronto Technical Institute, Instructor in Mechanics.
W. S. Benn, Instructor in English and Mathematics.
Dr. C. E. Buchanan, V.S., Instructor in Veterinary Science.
E. E. Eisenhauer, B.S.A., Instructor in Irrigation.
Miss Mary M. Hall, B.Sc., Instructor in Home Economics.
Miss Christine MacIntyre, Instructor in Home Economics.
Miss Gertrude Girling, Instructor in Home Nursing.

The following special lecturers gave instruction at the School during the term:

Dr. P. R. Talbot, Provincial Veterinarian.
A. N. Macdonald, Instructor in Dairying.
M. O. Wendleboe, Instructor in Blacksmithing.

The total enrolment at the Claresholm School of Agriculture since its inception has been 862, of which number 622 were men and 240 were women.

The enrolment in the fall of 1923 was as follows:

First Year girls	13
First Year boys	24
Second Year girls	14
Second Year boys	19
Total	70

Several other students have sent in their applications, but owing to financial and other circumstances have not yet been able to attend.

SUCCESSFUL PRIZE WINNERS

Winner of Gold Medal, donated by J. C. Hooper, for General Proficiency, was R. S. Woodford, Claresholm.

Winners of Meal-Serving Competition Prizes, donated by Miss C. MacIntyre and Mrs. J. C. Hooper, were: First, Miss Mary Auld, Brant; second, Miss Elsie Coates, Cowley.

Winner of Best Collection of Weeds and Seeds, was Miss Florence Kemp, Calgary.

Winners of Marquis Wheat Contest Prizes, donated by the Crown Lumber Co., were: First, J. E. Taylor, Pincher Creek; third, E. J. Smith, Pincher Creek.

Winner of the Inter-school Barn-planning Competition, First prize offered by the Western Retail Lumbermen's Association was won by W. S. Morrison, Claresholm.

The winners of prizes for the Aggregate standing at the Inter-school Livestock Judging Competition, held at Calgary were: First, Gold Medal, W. S. Morrison, Claresholm; third, Bronze Medal, W. E. Bennett, Burmis.

The Livestock Judging Team from the School went to Calgary on July 11 to take part in the annual livestock judging competition which, according to custom was held in Calgary in conjunction with the Exhibition. This event brings together teams representing the different Provincial Schools of Agriculture, and this year teams were present from Olds, Raymond and Claresholm. In this contest the students must pass judgment upon five common kinds of livestock.

The Claresholm team consisted of three 1923 graduates, R. M. McNab, W. Bennett and S. Morrison. These students won the highest place in four out of the five classes judged. They also won the first and third medals for the aggregate standing in the judging of the five classes of livestock, the gold medal being won by S. Morrison and the bronze medal by W. Bennett. These boys are to be congratulated on the splendid laurels which they brought back to the Claresholm School of Agriculture.

DEMONSTRATION FARM

The Claresholm Farm had the benefit of the excellent season which prevailed generally over this area during the whole year. This resulted in extraordinary results from the year's operations. The Farm produced roughly 8,500 bushels of the threshed grain, 150 tons of dry fodder, made up of alfalfa, sweet clover and green feed, with about the same tonnage of silage. Seven acres of registered Banner oats produced 1,016 bushels. Corn was a very average crop owing to the cool, wet season, but all other fodder crops and the cereals were excellent. An apparently satisfactory catch of Brome and Western Rye was secured on corn land with barley as a nurse crop. About fifteen acres of sweet clover is grown annually. The first year stand seeded with oats stood about three feet, or nearly the height of the oats, producing a fine combination which may have great future value as a green feed. Sweet clover silage was given its first trial on the Farm when 30 tons were put in the stave silo. This is now being fed and is of a fine quality and relished by the stock.

A new trench silo was constructed, the excavation being 6 feet deep by 50 feet long by 13 feet wide, with three 10-inch planks banked to the top above the level of the ground, giving a total depth of 8½ feet. This is again filled with corn and sunflowers for the steer feeding work.

The three rows of seedlings and cuttings planted in 1922 on the west end of the Farm made another rapid growth and now

measure from six to eight feet high. There were three more rows each three-quarters of a mile long, planted on the south side of the Farm, which also made a good start.

During the winter the Farm is carrying 75 head of cattle, 13 horses, 20 pigs and 23 sheep. In addition to the permanent herd of Herefords there have been 10 Jerseys on hand for classroom work. These will go to Raymond Farm in exchange for about an equal number of Aberdeen Angus. In this way the students will become familiar with as many breeds as possible.

A great deal of improved seed will be sold from the Farm to the farmers for the spring, 1924.

The class room judging work in dairy cattle judging is greatly aided by the use of stock from a number of close-by herds. Pure bred Ayrshires, Shorthorns and grade Holstein-Friesians, including some very fine individuals, have been made use of in this way and this generous support on the part of the owners is greatly appreciated.

Field Husbandry

The work of the Field Husbandry Department is yearly becoming more valuable as the annual data are added to those of the previous years. What at first was only a theory has gradually been proved or disproved as the case may be, until now we are able to state with more or less certainty what may be expected from various cultural treatment or summerfallow methods and what certain varieties will do under our conditions.

Every opportunity is taken of presenting these data to the agricultural students in the lecture periods during the term. Samples of the varieties are used during the laboratory periods to familiarize the students with superior types so that they may improve the crops on their home farms. The entire course is made as practical as possible, covering extensively, cultural methods, forage crops, methods of plant improvement and selection, crop rotations and the use of fertilizers. The students are also given a thorough training in the judging and grading of grains.

The steady growth and development of the work of the experimental department has yearly made it necessary to enlarge the experimental area. The first block of land set aside for this purpose composed about six acres, but has been enlarged until now it includes 32 acres in the main area, 11 acres in another block across the track and three and one-half acres on another part of the farm. The addition of these separate blocks has been necessitated by the extensive work being carried on with summerfallow treatments, on a scale sufficiently large to make them correspond to field conditions.

Past Season's Work

In viewing the past season's work, it can be considered to be the most satisfactory from the yield produced, results obtained and information collected. Mr. Peterson, of the Publicity Department of the Province, collected a large majority of his sheaf grain samples for the Provincial exhibit in Great Britain at this station.

He was particularly impressed with the excellent quality and wonderful growth exhibited by many of the varieties under test.

The extension work has also grown and more seed fairs and farmers' meetings have been visited; at such meetings information derived from the experimental work has been presented first-hand to the farmers throughout this territory.

COURSE IN IRRIGATION

The Claresholm School of Agriculture, being only a few miles north of the Lethbridge Northern Irrigation district and serving a large part of the said district, is able to be of great benefit to this district. The course, being an extremely practical one, enables the students to return to their farm better fitted to cope with the new problems confronting them. To each student is given an opportunity to be a power and an example in such a district. The example he can set in the method of handling and irrigating his own farm will be of great benefit to the district.

AGRICULTURAL ENGINEERING

The agricultural engineering course embraces carpentry (bench work and building construction), blacksmithing, gas engines, farm machinery, babbiting, pipe fitting, soldering, mechanical and architectural drawing. The work covered in each course is both technical and practical, placing the students at the end of the second year's course, in a position to do practically all their own engineering work and repairing on the farm.

DEPARTMENT OF PROVINCIAL BIOLOGIST

Bacteriology:— The course in bacteriology with the second year boys and girls is made to apply as far as possible to agriculture and household science. The study of bacteria in relation to each of the following is taught: air, water, milk, butter, cheese, soils, preservation of foods, vinegar-making and micro-organism in bread-making.

Culture Work:—During April, May and June, cultures for the inoculation of legume seed were grown at the School of Agriculture, Claresholm, and supplied to farmers in Alberta, British Columbia and Saskatchewan. The following is a statement of those sent out during the year 1923:

Alfalfa	717
Sweet Clover	1079
Field Peas	891
Alsike	10
Red Clover	40
Beans	83
Sweet Peas	4
White Dutch Clover	2
Total	2,826

Entomology:—This subject is taught to the boys of the first year only. They study elementary entomology, dealing with the place that insects occupy in the animal kingdom, their near relations, parts of the body, circulatory, respiratory and digestive systems and economic orders. A study is made of the life history

and important economic forms such as: Grasshoppers, cutworms, sugar beet webworms, beetles, flies, moths, etc. The various methods of control and insecticides are fully discussed.

Extension Work:— In combatting the grasshopper menace during the summer of 1923 the Department of Agriculture followed the same system as used in 1922, the only change being that the control areas were made much larger, especially in the South and West of the Province. Owing to the success of the previous summer's campaign it was found possible to enlarge the district, controlled from the Claresholm School, so that it included what had been two districts the year before.

Early in the spring preparations were made for the expected campaign, but the outbreak was very slight. Parts of Townships 10 and 11, Range 24-25 had local infestations. The farmers in these areas put on an aggressive campaign, had the grasshoppers controlled by July 1st and reduced the loss to a minimum.

This year's results show what may be accomplished by co-operation. Last year the infestation in this district was so great that the farmers at one time almost despaired of saving their crops, but with the assistance and encouragement of the Department of Agriculture, they continued to spread bait, finally bringing the pest under control.

The success of their efforts was demonstrated this year because the infestation was not one per cent. of what it was last year.

EXPERIMENTAL WORK

During the summer experiments were carried on with insecticides for potato beetles, western blister beetles, red-backed turnip beetles, cottonweed sawflies, aspen leaf rollers, cutworms and aphids.

Insect collections were made and the life histories of several insects were worked upon.

Botany: —The subject is taught to the first and second-year boys. The more elementary phases are taught to the first-year boys, including seed germination and controlling influences, vegetative parts of a plant, parts of a flower and uses of each, weeds and weed-seeds and important economic orders of plants.

The second-year boys are taught the morphology of the various tissues, necessary elements, plant breeding, rusts, smuts, blight and the various fungicides.

During the summer of 1923, collections of plants, weeds and weed-seeds were made. Different methods of preserving plants were used. The alum bath—two ounces of white alum to one gallon water—proved the best for preserving the natural colors of flowers, leaves and stems.

Horticulture: This subject is taught to the boys and girls, and is made to apply as far as possible to the farm home. The hardy trees and shrubs for wind-breaks are recommended. Instructions in the raising of hardy trees from seeds and cuttings

FIELD OF WHITE SWEET CLOVER ON CLARESHOLM DEMONSTRATION FARM, 1923. THIS WAS SOWN IN 1922 WITH WHEAT AS A NURSE CROP.

are given. The beautifying of the farm home by the planting of wind-breaks, ornamental trees and shrubs, making of a lawn and the planting of annual and perennial flowers is fully discussed. Experimental plot work was carried on in the raising of hardy trees and shrubs from seed and from cuttings, and the raising of perennial flowers for seed.

HOME ECONOMICS

The course in Home Economics aims to give a practical training in the vocation of homemaking. Through the introduction of modern methods of household economy, the message of scientific feeding and nutrition, child welfare and home-nursing and a knowledge of textiles and sewing, Alberta homes are being helped and made brighter.

A report of the work in Home Economics would not be complete without mention of the dormitory. We were able to lease the Lewis house for that purpose. It is a very comfortably furnished and commodious house, well suited to the needs of girls' residence; and besides having all modern conveniences, is steam heated. Sixteen girls, as well as the lady members of the staff and the housekeeper live in this up-to-date home at a very reasonable rate. As it is not a paying venture, all the expenses are pooled, and each girl pays her share, amounting to about twenty-five dollars a month. We feel very safe in saying that none of the girls would care to live outside, once having partaken of the home life in the dormitory.

During the summer months, Miss Hall and Miss MacIntyre did a good deal of Extension work. They were enabled to visit over seventy-five Institutes in the Southern part of the Province, thus reaching nearly two thousand women.

SCHOOL FAIR WORK—1923

School Fairs are conducted as co-operative enterprises between the Government agencies and committees of local people. The Government agents concerned with the fairs are the Provincial Schools of Agriculture, the Agricultural Representatives, the School Inspectors and the Department of Education. The local committees are composed of representatives of the various schools and other people of the localities who are interested in School Fair work.

The Department of Agriculture supplied free of charge the flower and vegetable seeds, instructional circulars, mounting materials for plant and insect collections, entry tags and prize cards. This Department also gave assistance in the organizing work of the more newly formed centres, gave a money grant to each school fair centre amounting to two-thirds of the livestock awards and supplied the judges at the fairs.

In all cases the local school inspectors, under the direction of the Department of Education gave valuable assistance in stimulating an interest in the School Fair work and in the judging of all school work at the fair.

Under the direction of the Claresholm School of Agriculture, sixteen school fair centres were organized. The committees of thirteen of these centres are to be congratulated on the splendid work done which resulted in an excellent fair in each case. The following is a list of the successful School Fairs and their dates:

Cayley	Sept. 4	De Winton	Sept. 20
Cowley	Sept. 7	Okotoks	Sept. 21
Granum	Sept. 11	Vulcan	Sept. 27
Macleod	Sept. 12	Blackie	Sept. 28
Claresholm	Sept. 14	Barons	Oct. 2
Pincher Creek	Sept. 18	Carmangay	Oct. 3
Longview (Foothills)	Sept. 19		

About thirty thousand entry tags were used, which is an approximation of the total number of entries in the various classes of exhibits. Four hundred and four dollars were paid in livestock prizes alone. The quality and preparation of the exhibits for show, was especially good, equalling and in many cases excelling those seen at our Agricultural Fairs. This speaks well not only for future School Fairs, but also for our larger exhibitions.

Following is a compilation of returns sent in by secretaries of school fairs in this district:

Name of Centre	No. of Schools exhibiting	Approx. No. of exhibits	Approx. No. of pupils and parents	Name of School winning diploma
Claresholm	14	700	600	Northern Light
Granum	7	1000	300	Granum Intermediate
Macleod	13	1120	785	Orton
Cayley	7	684	150	Cayley Intermediate
Okotoks	6	613	750	Villan
Foothills	7	250	110	
Vulcan	24	1400	500	Vulcan
Blackie	19	1487	500	Dinton
Carmangay	11	1000	550	Prairieville
Barons	5	1200	400	Barons
De Winton	6	870	200	Pine Creek
Pincher Creek	11	1000	500	Pincher Creek
Cowley	12	400	500	North Fork
Totals	142	11324		

Total amount of seed supplied:—3 tons Gold Coin Potatoes, 250 lbs. Parsnip, 75 lbs. Beets, 600 pkts. Sweet Peas, 1800 pkts. Coreopsis, 1200 pkts. Candytuft, 1800 pkts. Asters, 200 lbs. Peas, 225 lbs. Mangels, 75 lbs. Turnips, 300 lbs. Corn, 150 lbs. Sunflowers, 75 lbs. Carrots.

Sixty-two winners in the School Fairs of 1922 attended a profitable and enjoyable course at the Claresholm School of Agriculture, from July 9th to July 14th. These students represented thirty-one School Fair centres in Southern Alberta, two students, according to the regulations of the Department of Agriculture, being permitted to come from each School Fair centre. These boys and girls were the winners of the Scholarships offered by the Provincial Department of Agriculture, which entitled them to a week's course in Agriculture and Home Economics, also free board and room at the school and free transportation.

The course covered lectures and demonstrations in Horticulture, Field Crops, Livestock, Carpentry and Domestic Science. A daily time table from 6.30 a.m. to 10 p.m., in which ample provision was made for rest periods, games and physical training, was adhered to.

In the evenings, special features were, community singing, lantern slide lectures, moving picture films and radio concerts. On the closing evening, a trip through Claresholm and surrounding country was enjoyed by the boys and girls, in automobiles provided by the citizens of Claresholm, the evening terminating in a garden party and bonfire on the School grounds.

THE C.S.A. ALUMNI ASSOCIATION

A reunion of the C.S.A. Alumni was held at the Claresholm School of Agriculture on January 3rd, 1923. The constitution was redrafted, new officers were elected, plans for future reunions were outlined and the whole organization was put in excellent working order.

The Alumni Association now plays a very important part in the welfare of the Claresholm School of Agriculture. Old friends and former classmates again have an opportunity of meeting each other and exchanging ideas. Ex-students and present students are brought together, whereby new ideas concerning the welfare of the Claresholm School of Agriculture are advanced and subjects which vitally affect the future welfare of scientific and practical agriculture, are discussed.

The Alumni Association now publishes every three months a paper called "The Shock-Absorber." This is an excellent paper containing reminiscences of former students, articles by prominent men on subjects of vital importance to agriculture and on the present activities of the Claresholm School of Agriculture.

YEAR BOOK

In the spring of 1923 the students of the Claresholm School of Agriculture published a Year Book. This Year Book illustrated the various kinds of class room work, and outlined the functions and accomplishments of the organizations of the student body during the school year.

STUDENTS' ORGANIZATIONS

All students' organizations were conducted as usual with considerable success during the term. The students' council is the chief executive of the students' organizations and directs student efforts and opinion, as well as acting as intermediary between students and principal in disputes. The Literary and Athletic Societies did good work during the term in stimulating activities along these lines among the students.

BLACKLEG AGGRESSIN

The Claresholm School of Agriculture sold, during the year 1923, 170 doses of blackleg aggressin at 15 cents a dose and four syringes at $2.00.

Respectfully submitted,

J. C. HOOPER,
Principal.

Report of the Olds School of Agriculture

H. A. CRAIG,
Deputy Minister of Agriculture.

SIR,—

I have the honour to submit the Annual Report of the Olds School of Agriculture for the year 1923.

The following are the present instructors in the Olds School of Agriculture:

F. S. Grisdale, B.S.A., Principal and Instructor in Agronomy.
C. A. Weir, B.S.A., Farm Manager and Instructor in Animal Husbandry and Farm Management.
G. R. Holeton, B.Sc., Mechanics.
M. W. Malyon, B.S.A., Science.
J. J. Loughlin, Mathematics.
C. H. H. Sweetapple, V.S., Veterinary Science.
A. T. Kemp, B.S.A., Biology and Horticulture.
Helen S. Strauch, Sewing.
D. Houston, B.Sc., Cooking.
I. E. McLaughlin, B.Sc., Household Administration & Sanitation, Dietetics.

The following special lecturers gave instruction at the School during the term:

C. W. Stewart, Blacksmithing.
A. N. McDonald, Dairying.
H. A. Derby, B.S.A., Dairying.
G. Girling, R.N., Home Nursing.
E. E. Eisenhauer, B.S.A., B.Sc., Irrigation.

The total registration at the Olds School of Agriculture since its inception is 1,381. Students are allowed to enter the school without any entrance requirements other than that they must be able to read and write. This arrangement has many advantages as it allows many bright but poorly trained young people to enter our classes and obtain an education that they could not readily get in any other place. It is interesting to note that 90 per cent. of the students who have been in attendance at the Olds School of Agriculture have come from the rural districts.

The work in the school may be dealt with under three headings: Instructional, Extensional and Investigational.

The school is maintained, primarily, for the purpose of providing instruction for the farmers, and in order to attract the people of very ordinary means, as well as those who are in better financial circumstances, the courses are made free. The only expense incurred while taking the courses is for board and room, laundry and a small amount for books. We have had quite a number of students take the five months at a total cost of $150.00. Any student should be able to take the five months' course at the present time with an outlay of around $200.00. The courses in the School of Agriculture extend over a period of two winters of five months each. The term commences about the first of November, and ends the last of March each year. The instruction in

both courses emphasizes those phases of the work that deal with the practical problems on the farm and in the home.

Enrolment

The total enrolment for the 1923-24 term is 132, of which 66 are first-year students and an equal number of second-year students.

Of the total number of registered students, fifteen have Olds as their address. Eighty-nine per cent. of the student enrolment consists of men and women actually engaged in agriculture or from farm homes.

Academic Standing

The data in the Olds School of Agriculture register show that only twenty per cent. of the students who entered prior to 1922 had one or more years in a high school and that six per cent. of these had matriculated before entering the Agricultural School. The other eighty per cent. of the students who have attended the School have not had more than the public school grades or the equivalent before starting their course.

Figures show that in 1917-1918 with three schools operating in the Province, fifty-eight per cent. of the students came from the areas outside the fifty-mile radius. In the year 1919-20, with only two schools in operation, sixty-two per cent. of the students were drawn from the larger area. The next year with six schools operating fifty-five per cent. of the attendance was drawn from the wide area. In 1922 with four Schools in operation fifty-seven per cent. of the people in attendance at the school resided outside the fifty-mile radius. For the average of the four years dealt with, it is observed that an average of forty-one per cent. of the enrolment has been drawn from the district in the radius of fifty miles from the school.

Student Organization

In the various organizations of the school, the students are able to round out their general course with the development of the athletic, social and literary side of college life. In this they are assisted by the members of the staff best suited in the various lines. Special care is taken to see that all students are given a chance to act on the society executives, thereby receiving training in leadership.

Magazine

The students of the School of Agriculture in publishing the Olds School of Agriculture magazine again in the school year of 1922 and 1923 concluded the eighth effort in this line. There are one thousand copies of this magazine issued each year at an expense of approximately five hundred dollars. The magazine, not only supplies the students with a record of their activities during the school year and gives them, through contributed articles, some

information on various phases of rural problems, but also furnishes the Olds School of Agriculture with the best kind of publication for advertising purposes.

THE ALUMNI ASSOCIATION

The Olds School of Agriculture Alumni Association is now a very vigorous part of the Olds School of Agriculture. On January 3rd, 1924, the eighth annual winter meeting of the Association was held in the School of Agriculture. The programme at this meeting was extensive and of a high standard of excellence. There were over two hundred in attendance at the sessions. Addresses were heard from Hon. R. G. Reid, Provincial Treasurer; W. J. Stephens, Field Crops Commissioner, Edmonton, and N. S. Smith, M.L.A., Olds.

The various committees were active throughout the day presenting resolutions of different kinds to the Association for consideration. The most outstanding decisions made by the Association were decided upon at last year's meeting. This calls for the holding of a summer re-union at the Olds School of Agriculture covering a period of one and a half days on Thursday and Friday of the third week in July. This longer period allowed for the summer re-union permits the holding of discussions on problems confronting the members and also allows a longer period of time for the visitors to inspect and gain information from the experiments under way at the School Station.

The Women's Branch of the Experimental Union provided prizes for home thrift problems in the Experimental Union Prize List. The entries in most of these classes were not numerous, but they were of very good quality. Another year this part of the Experimental Union Fair should be an outstanding feature of the fair.

The Experimental Union connected with the O.S.A.A.A. is now able to announce an active policy regarding the production of pure seed, and, in the disposal of this seed, it has a working agreement with the Provincial Field Crops Commissioner, Pure Seed Branch.

The Experimental Union held the second annual Seed Fair in connection with this year's January Alumni meeting. There were over fifty entries of seeds on display at the fair. The entries in the wheat, oats, corn and potato classes were most outstanding in quality. The Association paid out $102.00 in prizes at this year's fair. This money was raised by the Alumni Association donating one-quarter of the 1923 membership money to the Experimental Union for that purpose.

THE GRAIN JUDGING COMPETITION

In connection with the annual 1923 Seed Fair held in Edmonton, a new departure along seed judging lines was announced. For the encouragement of this work among students in the Schools of Agriculture, the University of Alberta donated a handsome trophy.

Teams of three from the Claresholm, Vermilion and Olds Schools entered the competition, and we are very pleased to record that the Olds School of Agriculture representatives won the trophy which now occupies a place along with many others in the hall of the Olds School of Agriculture.

The members of the successful team were: W. Fredell, W. C. Fawcett, and W. Robinson.

THE DEBATING SERIES

The year 1923 was the second that the various Schools of Agriculture competed for the debating shield. The subject of the debates was: "Resolved that the Natural Resources of Alberta be Owned and Controlled Within the Province."

In the first round of the series Olds met Vermilion. Our negative team, Mr. Brunsden and Mr. Stevens stayed at home, while our affirmative team, Mr. Hyde and Mr. Nanson, travelled to Vermilion. Both Olds School of Agriculture teams were successful in this series.

In the meantime Raymond had met and defeated Claresholm, and debated with Olds in the final. The Olds School of Agriculture negative team travelled to Raymond while the affirmative team debated at home. In this debate Olds teams were also victorious, so the Shield, for the second time, remains at Olds.

PRIZES AND SCHOLARSHIPS

The following prizes and scholarships were awarded to students during the past year:

The P. Burns Co., Calgary, donated again last year $25.00 in prize money to the first and second years in both Agriculture and Domestic Science. These prizes aggregated $100.00 for the four classes. Mr. P. Burns has paid these prizes for the past eight years. The prizes add a very distinct value to the courses in the school and they are very much appreciated by both the students and staff of the Olds School of Agriculture. In the Domestic Science Branch the prizes are for practical work in sewing, cooking, laundrying and dairying, whereas, in the agricultural course, the awards are based on the grain and stock judging, carpentry, blacksmithing, weed seed identification and dairying lines of work. The following were the winners of these prizes:

2nd year men	1st	L. Musgrove, Olds.
	2nd	W. Fawcett, Consort.
2nd year women	1st	M. Bell, Millerfield.
	2nd	R. Maxson, Markerville.
1st year men	1st	R. Newcom, Pollockville
	2nd	F. Stevens, Olds.
	2nd	W. Ochs, Morningside.
1st year women	1st	Nina Rowell, Olds.
	2nd	Irene Groves, Botha.

The Edmonton City Dairy prize for the work in dairying, open to men and women, was won by the following:

2nd year	1st	E. W. Brunsden, Calgary.
	2nd	J. H. Stevenette, Innisfail.
	3rd	E. J. Johnson, Edmonton.
	4th	W. Robinson, St. Albert.
1st year	1st	H. M. Dundas, Acme.
	2nd	E. Graham, Lacombe.
	3rd	N. Rowell, Olds.
	4th	I. Groves, Botha.

A scholarship of $50.00 donated by the U.C.G., of Calgary, for general proficiency, in the first year Domestic Science, was won by Mrs. Eva Willson, Calgary. This prize was paid to the winner when she entered the second year term 1923-24.

The Olds School of Agriculture Scholarship of $50.00 for general proficiency in first year work, paid out on the same basis as the U.G.G. prize, was won by F. Stevens, Olds.

The prizes in the meal-serving competition, open to second year Domestic Science, was won by R. Brown, Cochrane, and E. Metcalf, Lacombe.

The prizes in the Domestic Science Graduation Dress Competition, were won by J. Russell, Drumheller, and R. Maxson, Markerville.

Prizes for set of Lingerie and Millinery were won by N. Rowell, Olds, and E. Ochs, Morningside, respectively.

Medals for general proficiency in stock judging and in judging sheep and horses were won by H. E. Craig, North Edmonton, and W. Fredell, Carstairs.

Display of Domestic Science Students' Work at the O.S.A. Closing Exercises

In connection with the Closing Exercises at the Olds School of Agriculture it has become a practice to have on display various lines of students' work which have been done during the school year. In the display of this work in the Olds School of Agriculture at the 1923 Closing Exercises, certain very interesting and economical points were to be gleaned from a study of the exhibits in the Domestic Science display which represented the work of forty-eight students. The exhibits included articles made in the kitchen, sewing room, laundry and manual training shop.

Summer Short Course for Old Country Boys

The Olds School of Agriculture gave lectures and practical instruction to two of the four C.P.R. scholarship boys. These boys came to the School in the early part of May and remained until October. The boys were Clifford White and Gordon Salter, both from farms in England. They were eighteen years of age, well

grown for their ages, and well educated. It was a pleasure to train them, and the Staff of the Olds School of Agriculture enjoyed the work. The boys also appreciated the training and the treatment they received. They also quickly acquired a knowledge of our farming operations. As a result they were quite efficient help and certainly gave value in return, for value received, in that they did a very considerable amount of work each day.

TWO OF THE FOUR C. P. R. SCHOLARSHIP BOYS WHO TOOK A SUMMER SHORT COURSE AT THE OLDS SCHOOL IN 1923. PICTURE SHOWS TWO CALVES FED AND CARED FOR A PERIOD OF TWO MONTHS.

MEETINGS

In connection with the Extension work from the Olds School of Agriculture there is a continuous demand for speakers to address U.F.A. Agricultural Societies and meetings of other organizations. There is scarcely a week in the year passes without requests of this kind from one or more sources. In nearly all cases the requests are compiled with and some member of the School Staff gives an address or a motion picture programme at the meetings. The motion pictures are especially valuable in this respect and can be used to very good advantage, not only entertaining, but also in an educational way, and, as more of the educational films become available the work will gain in popularity.

SCHOOL FAIRS WORK IN 1923

With the closing of the Youngstown School 13 centres came under the management of the Olds School. These, with the ones in the Olds district, made a total of 38 centres which were reor-

ganized and furnished with seeds. The following tabulation will give particulars regarding each of these fairs:

Name of Centre	Date of Fair	No. of schools in Centres	No. of pupils exhibiting in Centres	No. of exhibits in Centres
Asker	Sept. 15th	6	100	872
Airdrie	6th	10	201	503
Bulwark	19th	8	125	327
Castor	14th	15	204	1062
Cochrane	4th	7	111	678
Consort	21st	9	144	374
Chinook	22nd	8	94	942
Coronation	17th	9	213	962
Cereal	26th	10	...	...
Carbon	15th	11	192	607
Clive	19th	6	194	638
Carstairs	14th	11	177	508
Delburne	27th	4	166	344
Dog Pound	7th	8	127	525
Didsbury	Oct. 6th	10	282	634
Erskine	12th	8	104	730
Elnora	28th	6	196	544
Fleet	18th	9	113	892
Huxley	29th	8	204	646
Innisfail	5th	8	162	821
Keoma	5th	9	165	458
Lacombe	20th	16	224	1175
Markerville	21st	10	173	775
Millet	13th	10	196	743
Milnerton	1st	9	162	961
Monitor	20th	7	170	645
New Norway	14th	5	124	722
Oyen	24th	15	200	725
Olds	8th	17	412	1135
Red Deer	22nd	12	240	1234
Sundre	Aug. 31st	9	168	467
Scollard	11th	5	83	600
Sylvan Lake	12th	9	190	1056
Stettler	13th	9	150	498
Springwater	....	6	68	312
Sibbald (No Fair)	....	....	....	....
Three Hills	11th	12	259	942
Youngstown	27th	9	...	...
TOTALS		347	6283	25,757
Average		9	170	700

Only one centre was organized this year, viz.: Markerville. The financial condition of the country was undoubtedly responsible for the lack of growth in the work.

As in previous years, a representative of the Olds School attended re organization meetings when requested. The circulars and seeds were gotten out in good time and the work of visiting schools began April 25th. All schools in the Markerville, Milnerton, Sundre, Clive, Three Hills, Carbon and Keoma centres were visited and a number of schools in each of the following centres:

Lacombe, Innisfail and Olds. Later, evening meetings were arranged for in a number of centres, at which moving pictures were shown and addresses on school fair work given. During the intervening days as many schools were visited as was convenient. The centres in which such meetings were held are as follows: Sibbald, Oyen, Cereal, Springwater, Scollard, Fleet, Carbon, Bulwark, Stettler, Erskine, Delburne and Elnora. These visits and meetings have proven a valuable means of getting in touch with parents and pupils. Suggestions and instructions are given, questions discussed and answered, and most of all, interest and enthusiasm is aroused.

The fairs on the whole were very successful, particularly those in the Central part of the Province. In the Eastern part of the Province the matter of financing the prize list was the most troublesome part of the work. The Short Course Scholarships have proven a great stimulus to the work of all the fairs.

The school fair work in the Olds district was carried on this year by Geo. R. Holeton, R. M. Scott, Miss A. Lammiman, Miss D. Houston and Mrs. H. Strauch, with some additional assistance for judging at the fairs.

STOCK-JUDGING COMPETITION

The Boys' and Girls' Stock-Judging Competition at the Olds School Fair was an important feature.

The Samis School team consisting of Clifford Hagerty, Clyde Cross and Ward Hagerty, carried off the C. A. Weir cup with a score of 496 points, the next highest being 452. Clyde Cross with the highest individual score secured the bronze medal.

SEEDS DISTRIBUTED, 1923

Peas	700 lbs.
Mangels	600 "
Beets	650 "
Turnips	125 "
Carrots	110 "
Parsnips	90 "
Cabbage	40 "
Potatoes	43 bus.
Sweet Peas	100 lbs.
Pansies	1000 pkgs.
Poppies	1500 "
Candytuft	1500 "
Aster	2000 "
Portulaca	1500 "

BOYS' AND GIRLS' SCHOLARSHIP SHORT COURSES

This work is growing in popularity and keen competition is being shown by both children and parents.

The second short course for the Olds district was held at the Olds School, July 9th to 14th, 1923.

Twenty-six centres were represented and 52 boys and 52 girls were in attendance. These pupils were chosen from the 1922 school fair records for having highest scores in their respective

centres. They must be at least eleven years of age, not more than one member of a family can attend at one time and no pupil can attend more than one short course. Pupils are put to no expense, as transportation, living expenses, etc., are all borne by the Government.

On account of the Vermilion school being closed, the Boys' and Girls' Short Course for that district was also held at Olds, July 23rd to 28th, 1923.

The total attendance at this Short Course was 72.

The course and treatment rendered them was identical with that given those in the previous course. These courses provided a week's instruction and a very enjoyable outing for 176 boys and girls. They have proven very successful, and it is doubtful if any better work could be done to create interest in agricultural education and our Agricultural School than through these short courses.

SWINE CLUB

During the year progress was made in this work. In addition to the four clubs already in operation in this district, Red Deer was added during the summer. This club selected Yorkshires and were fortunate in getting good stock. This applies especially to the purebred sows.

An unfortunate feature of the work this year was the scarcity of suitable feed in the early fall. As a result, it was difficult to get a large number of hogs ready for the fall shows. This was particularly true of the Sundre and Carstairs clubs. The Carstairs club members also suffered from sows failing to breed or having small litters. The clubs, however, were able to make a fair showing at the Calgary Autumn Fat Stock Show. Olds entered a carlot of Berkshires and Red Deer showed a load of Yorkshires. They were placed in the order mentioned. Red Deer members were successful in carrying off second and third prizes in the bacon class for single hogs, with club entries. This competition is open to boys and girls whether they are club members or not.

Club members were given instruction in swine judging during the summer. They took a keen interest in the work and were able to win a number of prizes at the Calgary show. An encouraging number of the members took advantage of the Government's offer to pay their expenses if they attended the show. This trip was very educational.

There are now nearly ninety members in this district and the results of the work are already apparent. Club members find no difficulty in disposing of their surplus purebred stock. This stock is being widely distributed and is effecting a marked improvement in the swine of the district.

GRASSHOPPER CONTROL

Although the grasshoppers were quite bad in the district in the summer and autumn of 1922 and a great many eggs were laid, there were few signs of them last spring.

The Olds district was in charge of Mr. R. M. Scott and the district immediately North (Red Deer) in charge of Mr. M. W. Malyon.

These men reported that no poisoning was necessary and that the number of grasshoppers was again normal. The natural enemies of this insect have greatly increased and all danger for the present, at least, seems to be past.

VACCINE

The School still keeps on hand for sale, Blackleg germ-free liquid vaccine. This vaccine is sold at a cost of fifteen cents per dose. The syringes for injecting same are also offered for sale at $2.50 each. This vaccine has been sold by the School for the past three years and has given very satisfactory results.

THE SEASON OF 1923

The crop season of 1923 was one of the most ideal from the standpoint of crop production that the district has ever experienced. The season opened upon April 13th with fair promise, but owing to continued dry weather up till the 16th of May, when something over one-half of an inch fell, growth of all crops was slow and somewhat weak. The rainfall in the last half of the month of May amounted to approximately five inches, and from the first to the twenty-third of June there were another five inches of rainfall. This gave a rainfall of over ten inches in a period of slightly more than one month. This heavy precipitation in normal times might have been excessive and caused some injury to the growing crops. As conditions were, however, the grain crops made very rapid growth after the first good rain in the middle of May and continued to develop at a phenomenal rate right through the season. As a result the School Farm and most of the farms in the same district harvested a crop which produced record per acre yields, not only for the Province but for the world.

The rains came too late to make the prairie hay or timothy crops. As a result these crops were very much below the yearly average for the past ten years and about on a par with those of the two previous years. The alfalfa and sweet clover, especially the latter, were good, giving two cuttings of very excellent feed.

The forage, root and potato crops were also very heavy. The sunflower and corn crops were better than any of the previous crops of this kind that the Station has produced. The former was so heavy that it was very difficult to cut. The root and potato crops were very excellent in both quality and quantity.

In 1923 the frost-free period was about as good as in 1922 and considerably longer than the average in the Olds district. The last killing frost of the spring occurred on May 14th and the first in the fall on September 10th, when two degrees only were registered. This gave a period of 118 days without frost.

Weather records have been taken daily at the O. S. A. for the past ten years. In this work the maximum and minimum temperatures, precipitation, evaporation, wind velocity, humidity and sunshine are recorded. This information is sent monthly to the Dominion Meteorological Branch, Toronto, Ontario.

RANGE OF TEMPERATURE AT GIVEN DATES

Again in 1923 as in 1922 in the work with recording temperatures at the station, one thermometer was kept in the meteorological box as instructed by the Meteorological Branch, Toronto; another was kept six inches above the ground, nailed to a post underneath the one in the box, and a third one was located in a low spot on the farm, about half a mile distant from the first mentioned two. The minimum temperature of the grass thermometer ranged from one to three degrees lower than the one in the box, while the reading on the one in the low place on the farm was on one occasion eight degrees lower than what was recorded on the thermometer in the meteorological box.

PRECIPITATION RECORDS

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	Monthly Average
January		0 49	0 75'	0 60	1 16	0 75'	2 05	0 60	0 35	0 65	0 82
February		0 66	0 30'	0 20	0 25	0 42	0 95	0 30	0 65	1 60	0 59
March		0 85	0 60	1 00	0 15	0 05	1 95	1 46	0 25	0 55	0 73
April	0 39	1 00	0 60	0 75'	0 18	1 02	1 63	2 10	2 31	1 29	1 17
May	0 92	1 11	5 49	4 86	3 10	1 71	1 40	0 78	0 66	5 17	2 77
June	3 49	8 09	1 53	1 88	0 76	0 96	0 48	1 57	1 28	5 86	2 86
July	1 29	7 04	1 61	0 86	0 98	1 36	3 25	4 39	1 66	2 46	2 78
August	0 58	2 50'	8 56	1 44	2 46	4 43	0 62	1 82	3 88	4 23	3 15
September	1 49	1 25'	1 50'	2 14	0 69	1 43	0 72	0 67	0 90	1 00	1 17
October	1 50	0 73	0 93	0 31	0 50	1 05	1 53	0 02	0 60	0 00	0 71
November	1 70	0 52	0 80	0 65'	0 05	1 37	0 20	1 17	0 25	0 01	0 67
December	1 90	0 02	0 90	0 50'	0 50	0 59	0 30	0 05	0 65	0 1	0 88
Total Estimate	13 16	24 42	29 57	16 19	9 69	15 14	15 07	14 93	13 47	22 61	17 97

EVAPORATION FROM FREE WATER SERVICE AT OLDS

Month	1919 Inches	1920 Inches	1921 Inches	1922 Inches	1923 Inches
May	3 69	2 72	3 99	1 09	3 10
June	4 08	4 03	4 62	4 25	3 65
July	4 93	4 93	4 23	4 93	4 36
August	3 98	4 71	3 79	3 73	3 13
September	2 12	3 80	3 22	2 05	1 39
	18 80	19 68	19 84	19 05	15 83

DATES OF FIRST SEEDING AT OLDS, 1914 TO 1923

Years	Dates	
1914	April 17th	
1915	April 3rd	
1916		
1917	May 5th	approximately
1918	April 12th	
1919	April 8th	
1920	May 15th	
1921	April 27th	
1922	April 22nd	
1923	April 13th	

FARM CROPS, OLDS DEMONSTRATION FARM

The Farm proper is so divided that two distinct crop rotations are carried on; one a six-year rotation on the north side of the farm and the other a four-year rotation on the south side. The fields area on either side of the central lane is divided into fields of as nearly the same area as the lay of the land will admit. Unfortunately the central part of the farm is lower and heavier in soil than either end, so that the fields are not even in soil type all through.

FLOWER BEDS AT THE OLDS SCHOOL OF AGRICULTURE.

INVESTIGATIONAL WORK

As mentioned in previous reports the Olds School of Agriculture is conducting an extensive amount of experimental work. The details of the results from these experiments are given in the report of the experimental work at the Schools of Agriculture.

Cattle

A herd of Shorthorn cattle are kept at the Olds farm. This herd consisted, at the close of 1923, of 14 good breeding females, and sixteen head of young cattle, ten of which are young bulls or bull calves. The herd is headed by Princeton Benefactor (158604) a big two-year-old roan bull purchased as a yearling from the herd of His Royal Highness the Prince of Wales.

The herd was heavily reduced during the summer of 1923 when fifteen females and calves were sold to Mr. Little, Midnapore.

The bull calves are sold when reaching breeding age with the exception of occasional individuals that are castrated and fed as steers. This practice is only followed, however, in the case of

animals that appear suitable for exhibition purposes or to provide good specimens for class room work at the school. Six good young bulls were disposed of in 1923 to Provincial breeders.

This herd is treated wholly as a beef-breeding herd and cows are allowed to suckle their calves. A few nurse cows are kept to help out with the best calves and to supply milk for use at the Farm and School.

Late in 1923 two Holstein-Friesians were added to the herd.

During the fall fifty-one steers were purchased for winter feeding. Thirty of these are being used in an experiment to determine the comparative feeding values of sunflowers and oat silage.

Data from this feeding work will not be available until the experiment closes next spring.

Swine

Four brood sows farrowed during the spring of 1923. Two of these were Yorkshires, and two Berkshires, all purebred.

The Yorkshire sows were shipped to the Farm in February and farrowed in March. One sow farrowed but five pigs and succeeded in raising but three. The other sow farrowed eleven live pigs, but because of her excitable and vicious temperament killed more than half of her litter, raising four pigs. Of these, four were boars and were raised as such. During the autumn, three of these were sold as breeding boars, and the other, not finding ready sale, was castrated. A boar from the other sow's litter was castrated while young and the remaining pigs, three sows, have been retained in the breeding herd.

The Berkshire sows had been crossed with a Yorkshire boar kept here, and raised between them ten pigs. One of these died after weaning and another became chronically sick when nearing maturity, and was destroyed. One of the Berkshire sows died some weeks after farrowing, apparently of some form of blood poisoning. The other Berkshire sow farrowed six pigs again in November, which are being raised. The crossbred pigs were marketed in the fall, after their use for classroom work in the school was over, with the exception of two sows of fair type that were retained.

At the close of the year the breeding herd consists of two two-year-old Yorkshire sows, three young Yorkshire sows, one Berkshire sow, two crossbred sows and the herd boar. There are six two-months-old pigs on hand.

Horses

The horse breeding has been done on this farm for two years. All of the farm and experimental plot work is done by horsepower.

At present the horses number thirteen. Two of these are purebred Clydesdale mares and two purebred geldings. Three are fillies

rising four years and the remainder are good working mares of good size and type, with the exception of one aged gelding. This latter, an 1800-lb. horse with his mate a 1900-lb. mare, are used by the School for experimental plot work.

Horses are treated as ordinary work-horses and usually worked hard. Horse-working hours are from seven until six with one hour in the barn at noon.

This winter only two teams are being stabled. The other nine are picking their living about the fields and straw piles, having free access to water and salt, and are keeping in excellent condition.

Sheep

At the commencement of the year the sheep, numbering twelve ewes, four ewe lambs and a ram, were divided into two groups of eight each for winter feeding.

Bees

Two colonies of bees were purchased and sent to the school in the early part of May. The season at Olds was not especially good for honey, so the bees were allowed to multiply. This fall upon entering the winter, nine hives were placed in outside quarters. Most of these were in good condition and should come through fairly strong.

Poultry

Representatives of a number of breeds of poultry are kept in the Farm flock. During the greater part of the year these are kept together and handled merely as a laying flock, but prior to the hatching season, good representatives of the breeds are segregated with small breeding flocks to produce hatching eggs. Sufficient numbers of each breed kept we hatched to maintain the flock for the succeeding year. Old hens and non-producers are culled out from time to time and disposed of.

Respectfully submitted,

F. S. GRISDALE,
Principal.

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